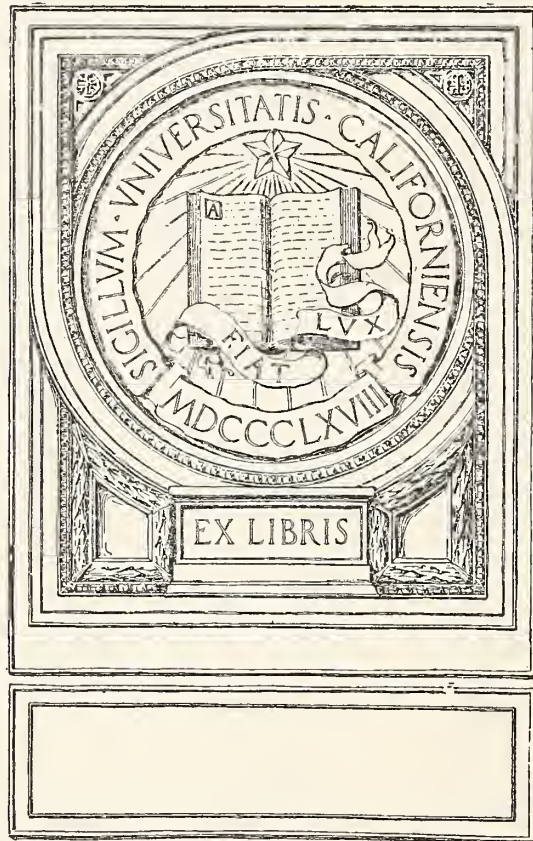
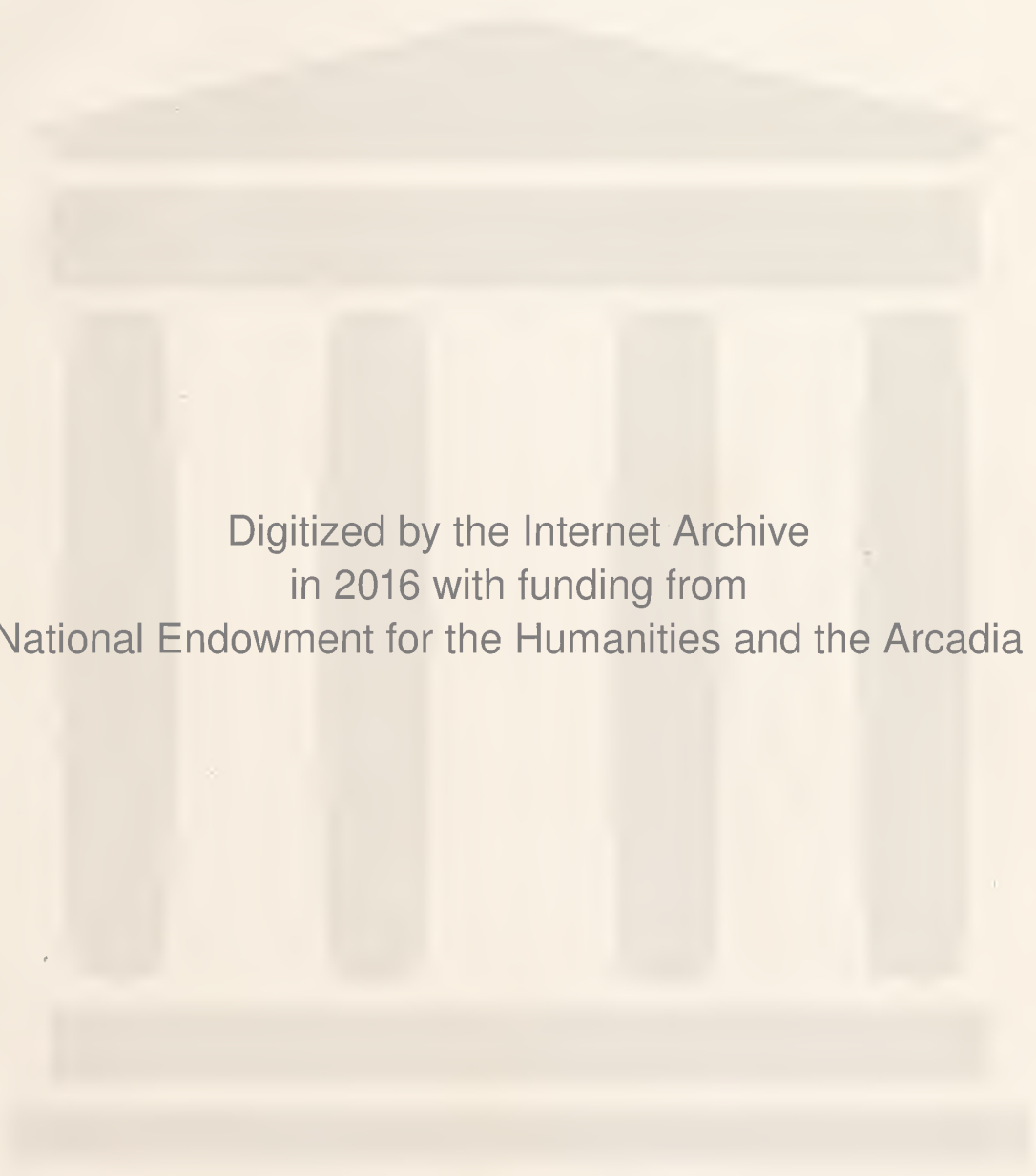


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ORATION ON SURGERY.

DONALD MACRAE, M. D., F. A. C. S.
Council Bluffs

"The ultimate test in every teaching in medicine, surgery and therapy" lies in prognosis. "A correct prognosis means that we understand the course of the diseased process with which we are dealing; it is favorable if we are able to retard, stop or reverse the series of physical or chemical changes that have placed a patient in the diseased state in which we find him, or unfavorable if we are unable to do this."

"A successful therapy means that we, not only understand this matter of *Prognosis*, but also that we have at our disposal appropriate measures by which we may retard, stop or reverse the course of the diseased process." (Martin Fischer).

Are we following these teachings? Are you exhausting every means at your disposal to fathom and explore the most remote pathologic avenues, through which symptoms presented by your patient, may lead? Have you examined your patient? Yes, you have prescribed a bottle of *Iron Quinine* and strychnine and an ice bag for that pain in his side, but—do you understand the pathology behind the pain, have you made an exhaustive examination of his body?

The following cases seen by the writer, have impressed him with the necessity of again urging the profession of Iowa to an earnest consideration of the subject of early examination.

Case 1. Woman, age about 30, seen by the writer during the year 1891. Patient and husband could not speak the English language, but without much difficulty, I made a diagnosis of pain in the belly, probably due to eating sauer kraut the night before. After three days of comparative comfort—accomplished by the administration of large doses of morphine hypodermatically, the patient died.

Autopsy or rather P. M. inspection, revealed, strangulated hernia.

Case 2. (This case and the following were seen by the writer within the past twelve months.)

Mr. G., age 70, history of chronic "stomach trouble" several years standing, had returned to his home in Council Bluffs one week prior to operation, suffering intense abdominal pains with bowel obstruction and vomiting. Diagnosis by his physician—cancer stomach. Dr. E. A. Merritt, called in consultation immediately found large, right, inguinal, strangulated hernia. Patient rushed to Edmundson Hospital, where our esteemed fellow surgeon, Chas. James, of Centerville, who happened to be in the city, operated. Death resulted notwithstanding a most skilful operation.

Case 3. Mrs. S., age 60, writer was called by a physician of large experience in a nearby town to operate upon a desperate case of strangulated hernia. Upon arriving by automobile, I was informed that the lady had been treated for a period over one week for cramps and persistent constipation and vomiting. Not until an hour before calling me, had the doctor discovered the real cause of her death, which followed shortly.

Case 4. Mrs. S., age 58, history, menopause at 48. No show of blood until 18 months ago, when she noticed a bloody discharge. Consulted a physician in Kansas City, who treated her some time for "change of life". Later she returned to Iowa, consulted her physician, who made an examination and immediately referred her to the writer. Physical examination hardly necessary, with a lemon colored skin, loss of forty pounds, stinking discharge from vagina, the picture was clear and distinct. Vaginal examination revealed an inoperable carcinoma of the cervix involving bladder and rectum. Actual cautery and acetone instituted. Patient still alive, but failing.

Case 5. Boy, age 12, osteomyelitis Pus removed from left Femur. Case treated as rheumatism for three weeks.

Case 6. Boy, age 6, 22 caliber rifle wound, three inches below umbilicus. Three days before I saw him, his doctor "probed wound", but was unable to "penetrate peritoneal cavity" and made a favorable prognosis. Twenty-four hours later, child began to vomit, temperature 101 F. pulse rapid. Third day I was called and made a forty mile auto trip to find the boy moribund with general peritonitis.

Case 7. Young woman, age 19, pleuro-pneumonia five weeks before I saw her. After the crisis, in spite of cod liver oil and antiphlogistine

poultices to chest, the patient failed rapidly. Finally, after five weeks, with a diagnosis of pulmonary tuberculosis, a consultant was called, who after excavating a few pounds of antiphlogistine, readily found a consolidation of some character in right side. The writer was called and removed two quarts of foul pus from the pleura. Patient now in excellent condition, except for persistent sinus, which may require attention later.

Case 8. Mr. H. age 41, six months after receiving a "Potts fracture", but still unable to walk, presented himself for examination. X-Ray by Dr. E. A. Merritt, revealed an old fracture of the lower fibula, with a marked anterior dislocation of the astragalus. An attempt was made to rectify deformity by open method, which failed. Amputation at ideal point ended a chapter of mistakes.

These are but a few of the cases of like character the writer has seen, but they are amply sufficient to illustrate the dangers of carelessness, or over-confidence in the individual powers of the physician to make a snap diagnosis.

On the other hand *a careful painstaking examination in all cases may prevent mistakes*, which lead to unnecessary cutting and mutilation.

A few cases will be sufficient to impress upon you the meaning of my words—

Case 1. Boy, age 5, writer was called out twenty miles to "operate for obstruction of the bowels". Upon careful examination, he found the little fellow suffering from left pneumonia, with diaphragmatic pleurisy, distention of belly, etc. No operation, patient recovered.

Case 2. Girl, age 12, sent to Edmundson Hospital for immediate operation, diagnosis ruptured appendix, with general peritonitis. Later diagnosis by Drs. Merritt and Tinley—pleuro pneumonia. No operation. Two weeks later writer evacuated pint of pus from the left chest. Recovery.

Case 3. This case illustrates many seen by us during the year.

Mrs. J., symptoms of nearly everything. A condition commonly, but erroneously called a neurasthenia, two years ago had had her appendix removed by a surgeon. Eight months ago a Todd-Gilliam operation for "retroversion" of the uterus. At this time, she is in the hospital under observation. She is no better, but complains that the operations have done her more harm than good. She also informs us that her former surgeon finally suggested the possibility of a gastro-enterostomy, giving her the relief necessary to make her happy.

From this brief outline of a few case reports, it must become evident to the most conservative, as well as the most radical, that something is wrong. It is up to us to solve this problem.

The conclusion is unavoidable that the mass of the medical profession is failing to utilize opportunities for early diagnosis. It is certain that the highest degree of "education of the public" against disease will avail but little, unless the medical profession *educates itself in the diagnosis of early signs and symptoms* the forerunners of serious complications, and unless our medical schools send out their graduates more thoroughly drilled in the recognition of the early manifestations of the disease, and imbued with the idea of the importance of such recognition and of the responsibility that rests on each member of the profession. (The responsibility does rest on us, and we must accept it.)

The writer, after completing this address last Sunday, happened to read an article in last month's J. A. M. A. (Vol. LXII 16, April 18, 1914) by the late Dr. Ralph S. Lavenson, of Los Angeles. The title of his paper, "The Responsibility for the Failure to Diagnose Tuberculosis in its early Stages". The article seemed to be in line with my own thoughts and deeply impressed the writer for two reasons. First, from the fact that the results of his observations are astounding and second; from the fact that it was a death bed paper. (Dr. Lavenson, died July 4, 1913, from tuberculosis.) Pulmonary tuberculosis may or may not be of interest to the surgeon. At any rate the subject of diagnosis is of great importance, therefore, I take the liberty of quoting from Dr. Lavenson's (physician and patient) as follows:

"Having had under observation recently a large number of patients undergoing sanatorium treatment for pulmonary tuberculosis, I was impressed with the frequency with which the diagnosis of tuberculosis was made only long after the patient had first presented himself to a physician with symptoms suggestive of the disease. On further inquiry I found that in but *twelve* cases out of a total of *sixty-six* was the diagnosis of pulmonary tuberculosis made immediately, or within a few weeks after the patient first sought a physician.

I decided to determine, however, as far as possible, what means had been employed by the physicians to establish the diagnosis in the fifty-four instances in which the diagnosis had been made only after from three months to as long as five years after the patient had first sought a physician presenting symptoms suggestive of,

and undoubtedly referable to a tuberculous pulmonary infection.

Of the measures to be employed in establishing the existence of pulmonary tuberculosis, the three most important—and, in fact, the indispensable ones—are the physical examination of the chest, the determination of the existence or non-existence of fever, and the examination of the sputum for the presence of tubercle bacilli. To this list might be added a careful history, and some might be inclined to add also the performance of one or more of the various diagnostic tuberculin tests.

To my mind, these tests are too variable, and as yet their significance too difficult of interpretation, except by the most experienced, to warrant their general employment as diagnostic measures. I have consequently directed my efforts towards determining how frequently in the cases cited these *three* measures, the *determination of temperature*, the *physical examination* of the chest and the *examination* of the *sputum* were employed in attempting to establish the diagnosis. A number of the forty-four patients whose histories were studied, visited more than one physician; several of them, in fact, *convinced* that they were subjects of an early tuberculous infection, in *spite* of the attempt of physicians to *reassure* them, visited almost every practitioner in the community in which they lived. I have thus collected the records of the examinations performed as a result of the visits of these fifty-four patients to seventy-two different physicians. Summarized, they are as follows:

In 13.8 per cent. of the cases neither physical examination nor sputum examination was made, nor was the temperature taken.

In 52.7 per cent. of the cases a physical examination alone was made.

In 12.8 per cent. the temperature was taken and a physical examination made, but the sputum was not examined. (In one of the cases included in this group the patient had no sputum at the time the other examinations were made.)

In 8.3 per cent. the temperature alone was taken.

In 4.1 per cent. a physical examination was made and the sputum was examined, but the temperature was not taken.

In 5.5 per cent. of the cases the patient, referring the complaint to the larynx, sought a laryng-

ologist, and in these cases only a laryngeal examination was made.

One patient had the sputum examined, but neither was physical examination made nor was the temperature taken.

In but one instance in which the diagnosis was not made were physical and sputum examinations made and the temperature determined.

It may seem entirely unnecessary to remark on statistics so obvious as these, yet I feel that it is necessary in the interest of a matter of the greatest importance in the attitude of the physicians of this country toward the public health. *The fact that when subjects with symptoms of pulmonary tuberculosis presented themselves for medical care, but one physician out of seventy-two performed the three absolutely essential tests before denying the existence of tuberculosis, denotes a deplorable lack of thoroughness in the professional attitude of physicians toward patients presenting themselves with the early symptoms of tuberculosis. Moreover, in 13.8 per cent. of the cases, not one of these measures was performed, even though in almost all of the patients the symptoms were sufficient to justify more than a suspicion of this existence of pulmonary tuberculosis, and in all were such as to justify an examination for its possible existence.*

In 52.7 per cent. of the cases a physical examination alone was made. In considering the significance of these statistics, it must be noted that the patients from whose record they are derived belong in great part to those who visit general practitioners.

I do not attempt to maintain that were the proper diagnostic measures employed in these fifty-four patients the diagnosis would have been established at once in all of them, but it is fair to assume—and this assumption is justified by the subsequent histories in many of the cases—that in a large percentage of them the diagnosis could have been made. We have gone to much trouble to acquaint the masses of the people with the early signs of tuberculosis, but does our obligations cease there? When patients present themselves to us with symptoms of early tuberculosis, is every possible measure employed to determine if the disease actually exists? Judging from the few statistics that I have collected, it is not, and if these statistics are representative of conditions existing throughout the country, there must be a radical change in the attitude of

the general practitioner toward the early diagnosis of pulmonary tuberculosis before we can begin to think of successfully combating the disease.

It may be unjust to draw conclusions from eight or nine instances, but in collecting the preceding data I met at least that number, indicating a deplorable lack of what might be called text-book knowledge of the significance of the signs and symptoms of tuberculosis. *In several cases frank pulmonary hemorrhages were regarded as of no significance whatever, and the patients were assured that they absolutely did not have tuberculosis. It cannot be said too emphatically that, except in the rarest instances, the expectoration of blood is a definite and unmistakable sign of the existence of pulmonary tuberculosis.* The assurance of a physician that the expectoration of several mouthfuls of blood must have come from the nose is very consoling, but it is very seldom based on fact. In several cases of consolidation of almost an entire lung associated with the afternoon temperature of 99.4 to 100 for a period of more than five months was diagnosed as pneumonia. In several instances the significance of a continued afternoon temperature of 99.4 or slightly higher was entirely ignored. In one instance in which both physical and sputum examinations were made and the temperature was taken, a daily afternoon temperature of 99.2 to 99.4 was observed over a period of many weeks, and in spite of this, neurasthenia was diagnosed. Another common fallacy appears to be for physicians to ignore the existence of closed cases, and flatly to ignore the existence of pulmonary tuberculosis when the sputum examination is negative, despite the very positive nature of other signs and symptoms.

The author of this paper ascribes the failing of the profession to grasp the importance for thorough early examination to one of three conditions, namely:

- 1st. Careless Class,
- 2nd. Ignorant Class,
- 3rd. Criminal Class.

All three of these are usually dependent upon improper medical education, whether it be in the medical college from which he graduates, or from the fact that he has failed to continue his study after graduation and has not availed himself of the opportunities presented by his fellow

workers in the profession and kept abreast of the times.

The ignorant class is impossible. These men are rapidly disappearing. Time alone will eliminate them. The careless type may be found in larger numbers. The remedy for this class is education by the profession and laity as well. The latter will have more to do with the careless and criminal class than his more careful brother physician. The laity are rapidly becoming educated to differentiate between the "tongue and pulse" doctor, and the careful painstaking investigator. The criminal class are already on the run. The leading newspapers and periodicals are refusing advertisements of questionable character and through their editorial columns are rapidly educating the reading public along these lines.

We have in our very midst, however, always a few of the criminal class, who are so cunning and suave in their manner that none but the inner circle of competitors really know of their criminal existence. Unfortunately many of these men are not of the ignorant class, but on the contrary, may be of the most dextrous type of surgeon.

Their exhibitions excite the admiration of the ignorant, careless and criminal classes. These men make diagnosis for commercial purposes and operate or refer patients to men of their own type. If the patient really requires the operation, all well and good, the loot is divided and every one is happy, provided, the patient knows nothing concerning the division of the swag. If the patient does not need the operation the swag is divided as usual, but the patient is not improved in health, instead, the previous symptoms are often aggravated. Here the damage is not alone to the patient, but effects surgery in general; often creating suspicion to such an extent that other patients who should demand imperative surgery hesitate, and may be lost. The problem to eliminate this class of men, is the burning question in the profession today.

Education of the profession and laity and publicity may help eradicate some of these parasites. The subject is like the cancer question. We all know of its presence, but the cure, once the disease is well advanced in an individual has not been found up to date. Early operation after early diagnosis by cutting them out, of all medical gatherings, is the only hope. They are

infectious and contagious in character and should be eliminated in order to preserve the profession from contamination. Even advanced cases of this type should call for radical measures, and be cut out regardless of the mortality.

The field of medicine and surgery has broadened and expanded to such an extent that no man can master the whole territory and become an expert in all lines. As a result of this development in our art the so-called specialist came into existence. My definition of a specialist is—a physician who by profound and systematic clinical training and observation in the broad field of medicine and surgery has attained an advanced degree of proficiency in one particular line, which entitles him to special recognition. The specialist is a necessary evil. It would be well for suffering humanity, if it could prosper, without him, but it cannot without disaster to society. The hard working conservative general practitioner, who advances intellectually and thoroughly examines every patient, stands on a much higher plane than any special surgeon or internist. It is up to him to weed out among his patients the ones he knows he can handle alone, and to recognize the peculiar character of the obscure maladies, which must receive special attention by others. Team work of this kind made up of general practitioner as full back with the pathologist, surgeon, X-Ray, internist, genitourinary men occupying the other positions, all working to effect a successful goal against the common enemy—disease. This is the only scientific solution of the problem of early diagnosis and prognosis. All of these together determine the question of scientific therapeutics.

This paper must not be misconstrued as an attack on the general practitioner. I do not mean to underestimate his position or knowledge but in order to maintain the confidence of the public we must throw off the commercial spirit-burden of the 20th Century—and go back to the old fashioned way of our fathers and live not for ourselves alone. Let us not trifle with that most remarkable portion of matter, which is destined to be for a season the tabernacle of the human spirit, and which, apart from that singularly interesting thought, excites increasing wonder and admiration the more closely we investigate its marvelous construction.

The sad varieties of human pain and weakness

with which our daily vocation is familiar, should rebuke our pride and quicken our charity.

I say, let us beware how we idly neglect, or selfishly abuse a stewardship so precious, yet so weighty.

The profession of medicine, having for its end the common good of mankind, knows nothing of national enmities, of political strife, of sectarian divisions; disease and pain being the sole conditions of its ministry, it is disquieted by no misgiving concerning the justice or honesty of its clients cause; but dispenses its peculiar benefits, without stint or scruple to men of every country, and party, and rank, and religion.

Familiar with death, witnessing from day to day its sudden stroke, its slow but open seige, its secret and insidious approaches, we are not permitted to be unmindful that our own stay also is brief and uncertain, our opportunities fleeting, and our time, even when longest very short if measured by our moral wants and intellectual cravings.

SOME POINTS IN THE DIAGNOSIS OF CANCER OF THE INTESTINAL TRACT.*

WM. JEPSON, M. D., Sioux City, Iowa.

MR. PRESIDENT AND GENTLEMEN: The first essential in the successful management of cancer anywhere, is its early recognition. This, in turn, can only be brought about by a state of alertness to its possible presence, so that its earliest symptoms may receive a proper interpretation and its eradication promptly instituted. The sad results following in the wake of our management of malignant growths of the intestinal tract are to be attributed more to carelessness in diagnostic efforts, than defective operative technic. At the present time there is probably no malady that imposes upon the general practitioner a greater responsibility in the way of interpreting in terms of pathology its earlier symptoms than cancer of the bowel.

That the topic is not without interest is disclosed by the vital statistics, as prepared by our government for 1912, which show 46,531 died in this country that year from cancer, of that number over one-half were located in the digestive tract, of which one-third were found in the intestinal tract.

*Read before the Iowa State Medical Society Sixty-third Session, Sioux City, May 13-15, 1914.

Cancer of the intestinal tract occurs but slightly less frequently than in the uterus, and much more frequently than in the breast. (Cancer of the intestines and rectum, 5,923. Cancer of the uterus, 7,089. Cancer of the breast, 4,431.)

In our present state of imperfect knowledge concerning the early symptomatology of cancer, the presence of a swelling or ulcerating area, is a *sine quo non* for the clinical diagnosis of cancer of the exposed areas of the body. In all of the intestinal tract except the terminal portion, we are of course, prevented from employing inspection and palpation for the recognition of these phenomena, hence we must await the appearance of occult symptoms indicative of disturbed function. This might indicate that the task was well nigh hopeless, but not so, for ulceration or contraction of the involved area, with their attendant phenomena, are fairly early manifestations.

From a diagnostic standpoint, we may divide the intestinal tract into two areas, among which malignant growths are about equally divided, namely, the terminal portion, consisting of the last seven or eight inches of the bowel, which lends itself readily to inspection and palpation, and the remaining twenty-three or twenty-four feet, where these means can not be employed. It is in cancer of this latter area that our real diagnostic difficulties are experienced, hence this paper will be largely devoted to the consideration of them. However, before proceeding with this consideration, let me impress upon you that it is not alone here that our errors pile up, which is disclosed by the fact that of all cancers of the rectum, coming to the surgeon for relief, hardly one-third are any longer amenable to radical operation. Cripps, of England, places the estimate as low as one-fourth. My own experience tends to confirm this latter estimate, though of nine cases that have consulted me during the last four months, four have been subjected to satisfactory radical operation.

That cancer of the rectum should be treated for months or even a year or more, under supposition of it being a case of dysentery, chronic diarrhoea, piles, simple ulceration, or uterine affection with operation (as I have seen in two cases) until the condition is hopeless, is a sad reflection upon our thoroughness, as those who see and feel know. Such errors can be obviated by laying down for ourselves a fixed rule of conduct in relation to cases consulting us

detailing symptoms referable to the lower bowel, and that is, *to subject them forthwith to a physical examination.* To fail to do so in a senescent patient I consider proximate to *criminal negligence.*

The symptomatology of malignant growths of the bowel being dependant upon disturbed function, and this in turn upon the site and type of growth, we will find a varied pathology and symptomatology. For example, sarcoma, which occurs in the intestinal tract about once to every twenty cases of carcinoma, is found much more frequently in the small intestine, in the proportion of about 1 to 6, if we exclude the appendix. While on the other hand, the small intestine is quite immune from carcinoma as compared with the large intestine, the ratio being about 1 to 20, though representing probably more than three times as much surface from which such growths might arise. From the above figures it will be observed that sarcoma vies with carcinoma for first place in malignant growths of the small intestine. This fact is of clinical importance, as it is well recognized that sarcoma is not influenced in its development as is carcinoma, by the advent of senescence. (Thus Stern has reported a case in the new born, while it has been observed at the advanced age of 70 years.)

It is not alone as between the small and large intestines that there exists a difference in the predisposition to malignancy, for, as is well known, the different areas of the large intestine differ from one another in the matter of predisposition to carcinoma. Thus; excluding the rectum from consideration, we find cancer in the colon to be located as follows, one-third in the sigmoid flexure, one-fourth in the cecum, the remainder being about equally divided between the ascending transverse and descending colon, and hepatic and splenic flexures.

Sex: For some reason, carcinoma, as well as sarcoma, is apparently more frequent in men than women, the proportion being about 2 to 1. (This is quite contrary to what one would expect, if one favored the view that a constant mechanical irritant, as might exist in constipation, is a factor, for men are hardly to be considered to be constipated to a greater extent than women. Could the glands be responsible in trying to eliminate toxins, as tobacco?)

Age: While carcinoma of the bowel appears most frequently in the 4th, 5th, and 6th decades

of life, yet it appears that senescence, at least so far as can be judged by years, is not so essential for the development of cancer here as is apparently true elsewhere, thus Isreal has reported a case in a lad of 13 years, Mikulicz in a boy of 16, (while in a hundred of his cases, four occurred between the ages of 20 and 30,) while Auschutz, from an analysis of 128 cases, (Breslau, Chirurgeshen Klinik, 1891 to 1906,) found

Under 20	20 to 30	30 to 40	40 to 50
2	6	20	34

This means that 28, or about one-fourth have cancer in that early age when it would ordinarily not be suspected, while 62, or nearly one-half, suffered before the age of 50, the period of man's best years. I have personally seen three cases in the third decade of life aged respectively 21, 27, and 29 years.

This possibility of the appearance of carcinoma at that early age when it is not generally expected, should be kept in mind on account of its frequency. (Adami attributes this tendency to appear in early life to the common occurrence of polyps in the intestines of the young.)

Type of Cancer: What the factors are, which in a given case, determine the evolution of one type as against another, does not especially interest us here, but it is of the greatest importance that it be recognized that cancer in the main, assumes three types, namely, the "fungating" or "encephaloid type," and the infiltrating or "colloid type," both of which give rise to tumor formation, the former by an outgrowth into the lumen of the bowel and the latter by an infiltration of the bowel wall—and the "scirrhus" or contracting infiltrating type in which there exists no tumor and if viewed from without there may be apparently a loss of structure, as in the "ring scirrhus", where the bowel appears to be surrounded by a ring of fibrous tissue. It is important to keep this type in mind when exploring the tract after the abdomen is opened, for in its early stage it may easily be overlooked, as happened to me once. It is noteworthy that the "scirrhus" tends to occur in the old and at the flexures and sigmoid, while the fungating and colloid in the young and at the cecum.

These types differ considerably in their malignancy, as well as their symptomatology, the fungating being the least malignant, tending to assume the character of the papillomata, the in-

filtrating colloid and scirrhus vie with one another as to malignancy. While all types tend to ulceration, it is very slight in scirrhus and very marked in the fungating and colloid types, leading to the appearance in the stools of blood, muco-pus and even large quantities of putrid debris, the fetor being but slightly influenced by purgatives or intestinal antiseptics. As there is no contraction of the involved area, intestinal obstruction occurs only rarely as a marked symptom. In fact, the ulceration in the colloid type may lead to such a destruction of tissues as to increase the lumen of the bowel at the site of involvement.

In the scirrhus type there exists no tumor and but slight ulceration, hence the symptoms are those of encroachment upon the bowel lumen occasioned by its contraction.

If the quantity of fecal material requiring passage through the narrowed lumen continues more or less constant, and is devoid of masses which find difficulty in passing the aperture, the condition may practically continue symptomless until a sudden occlusion occurs, either through swelling of the mucosa or a mass incapable of passing, or the sudden demand for the passage of an increased quantity in a given time, with the result that it accumulates proximate to the growth, leading to sudden intestinal obstruction. Invagination at the site of malignancy may also be a cause of obstruction, as occurred in one of my cases.

If time permits, the musculature of the intestines will increase in order to meet the extra demands being made upon it to force its contents forward, which, with the co-associated distension, may lead to visible peristalsis, Nothnagel's, so called darmsteifung, which is pathognomonic of obstruction. This may be preceded by, and associated with distention and meteorism of the cecum.

As the function of the intestine which may be disturbed by the presence of a cancer is that of propelling its contents along its course, it follows that the more proximate the obstacle is to the stomach, where the volume transmitted as well as the rate of transmission is greatest, the more violent or acute will be the symptoms, and conversely, the closer the growth is to the termination of the bowel, where the volume is minimized and the current replaced by stagnation, the less grave the symptoms. In fact they may imitate an

obstinate case of constipation during the early part of their existence, especially is this true when the ileo-cecal valve closes perfectly, for then the tension will be limited to the colon or that portion of it between the valve and the site of obstruction, thus preventing acute symptoms from developing until it is forced open by the distended bowel. However, as soon as it gives way, permitting the contents of the colon to deluge the small intestines, acute symptoms are suddenly inaugurated.

In a small per cent of cases, the symptoms may be altogether different from those observed in the two types so far described. Thus, the ulceration of a carcinoma may destroy the whole thickness of the bowel wall, giving rise to an infection of peri-intestinal structure, with resulting abscess, if not general peritonitis, the local and constitutional disturbances being the first observable symptoms of the disease. Three such cases have come under my observation.

From the foregoing it may be seen that cancer of the intestines presents three types of clinical histories, one of which is especially characterized by the presence of a tumor, observed in about 40 per cent of cases, and associated with hemorrhage in about 20 per cent.

The last type is characterized by the prominence of symptoms indicating an obstruction. These represent about 40 to 50 per cent of cases seen, though some must have had the indefinite symptoms of chronic obstruction alluded to.

The last type has as its dominant and often first symptom that of abscess formation, the cause of which is likely to be erroneously interpreted as due to an appendicitis or diverticulitis. How may we diminish our errors? Only through being constantly mindful of the frequency of cancer of the bowel and carefully investigating the cause of every bowel hemorrhage or evidence of ulceration or the presence of intra-abdominal tumor, and being alert to the earliest symptoms of diminished bowel permeability and at once employing measures for its detection, as bismuth and the Xray or inflation with water or air. What are the symptoms which are pathognomonic of cancer of the bowel? There are none. Certainly none that I have mentioned are, for it is of course recognized that the tumor formation of cancer may be simulated, at least in the early stage, by innocent tumors of the intestines, mesentery, or omentum, or similar innocent and

malignant growths of the adjacent abdominal organs. Similarly, the obstruction of the bowel which may result from cancer may be simulated by that produced by the contracting syphilitic, tubercular, or other ulcers, and the same may be said of the pus and blood which at times may be found in the feces.

Hence we need not discuss the differential diagnosis, for such is only inferential. Not being able to establish a differential diagnosis, are we helpless, must we stand with folded hands until the growth, through stricture or ulceration, has so far advanced as to reveal its true nature? Emphatically no. For to do so would be to waste the patient's chances for recovery. Instead, we should give the patient the benefit of the doubt, which, in the present state of surgical perfection, unquestionably consists in exposing the bowel so as to permit its further investigation. Having exposed the tumor, or site of stenosis, or ulceration, are we now in a position positively to differentiate the cancerous from the non-cancerous. Unfortunately no, since we are now in no more favorable position for investigation than when similar conditions are located on the surface of the body. In fact not even so favorable, for in the instance of cancer of the bowel we have, in place of the front and origin of the growth, the back part of it, so to say, presented to view, and as a consequence we may not readily make use of the microscope as an aid.

However, this absence of a positive differential diagnosis, it is believed, may not be that hindrance to practical results that might, upon first thought, be considered the case, as the conditions with which the cancer may be confounded are possessed of practically the same indications for treatment, or to put it slightly different and more accurately, one might say that if such conditions were treated under the supposition that they were cancerous, the patient would but rarely, if ever, have his interests jeopardized thereby. For example; if a benign growth should be removed under the supposition that it was a malignant one, few, I think, would contend that the patient's welfare had been trespassed upon, especially as all intestinal tumors tend to a fatal issue. Again, to resect a segment of a stenosed bowel, the site of a contracting, tubercular, or syphilitic ulcer, or even a cicatricial stricture, will probably not introduce greater risks or conduce to less satisfactory results than would follow upon an entero-

entrostomy, which would be the only other procedure which would afford relief in such obstruction, if we exclude the make-shift of an enterostomy or colostomy for temporary relief.

If the foregoing statements are correct, it is recognized that often a positive diagnosis of a malignant growth may not be made prior to operation, or in fact, until the specimen has been subjected to the microscopical examination, which fact does not militate against extending to the patient the needed relief, which of course, is complete removal when possible. As we are incapable of making an early diagnosis by means of the crude methods now at our disposal, do we make it early enough to place them within the pale of operability?

Hausmann, from an analysis of 112 cases dying of cancer of the bowel and which were autopsied, found that in 55 cases, or nearly one-half the condition had remained localized, of the remainder, 36 had involvement of adjacent lymph nodes, and 21 showed general infection.

The results of observations at the operating table, as gathered from various sources, would indicate that approximately about one-half are clearly inoperable. (Boas placed it as high as 80 per cent.) While between these two extremes we have a questionable class which will be lessened in the future only through our perfection of diagnostic technic.

After all is said, the most important thing in the management of intestinal cancer, as I see it, is to recognize the borderline between the medical and surgical cases of the intestinal tract. That is for the internist to recognize when his efforts are futile in a chronic progressive condition, and consider the possibility of surgical intervention.

DISCUSSION.

D. C. BROCKMAN, Ottumwa: This is too good and too important a paper to pass over without discussion. The keynote of this paper, as of all other papers on cancer, is early diagnosis. The crime committed by the general practitioner is failure to make a diagnosis in easily diagnosed cases, if they are properly examined. The bad results in all these cases are due to the fact that we make our diagnosis and give our treatment without any physical examination. We do not pay the attention we should to the history of the case, and then absolutely ignore physical examination. The percentage of cures in cancer should be developed, and would be if the family physician will make a physical examination in every

case that presents itself to him, instead of giving some powders or pills or tablets and sending the patient away. Here is the great defect in the treatment of cancer by the surgeon. The bad results are due to the lack of examination by the family physician here, as in cancer of the breast and cancer of the uterus. I wish I could impress on every member of this Association the importance of making a careful physical examination of every patient who comes into his office. The fifty-cent doctor is a disgrace to the profession and a menace to the public. Examine your patient, give him a good, careful, thorough physical examination, and charge him for it, and you are doing the Lord's service.

VAN BUREN KNOTT, Sioux City: I wish to agree with Dr. Jepson in practically everything that was stated by him this morning, but I must disagree slightly with my friend Dr. Brockman. I do not mean by that that I wish to decry the value of physical examination; far from it; but unless Dr. Brockman is a much more skilled examiner than most of the surgeons with whose work I am acquainted, and which I have followed to a greater or less degree, he cannot in these cases of carcinoma of the intestine make a diagnosis in a very large percentage upon a physical examination. If carcinoma of the intestine, as of carcinoma elsewhere, must be treated early and radically to effect a cure, or to afford us any prospect of a cure, I wish to agree with Dr. Jepson in the statement that the diagnosis in many of these cases must be made by exploratory operation. In that way only, so far as I am able to judge, may the diagnosis be made early in the largest percentage of cases. These cases present symptoms which are more or less characteristic. As stated by the essayist, the differential diagnosis between intestinal tumors which are tending to or are already causing obstruction, cannot be accurately and definitely made, but the treatment of either a benign or simple growth of the intestine is practically the same, usually meaning removal in either instance. There are some cases where the benign intestinal growth causes incomplete obstruction, and in which at the time of operation the differential diagnosis can be made and we are positive that it is not malignant, the short-circuiting operation will be safer for the patient, and equally satisfactory so far as the result is concerned.

I wish to indorse the attitude taken by the essayist that when these patients present themselves with the symptoms well known to all of slowly and steadily increasing intestinal obstruction, marked, possibly, by hemorrhage and by increasing tendency to constipation, with the appearance of more or less soft stools, with a tendency to becoming liquid, or ribbon like in many instances loss of weight, more or less abdominal distention, colicky pain and if the patient is over 50 years of age, carcinoma should be

suspected, and its presence or absence ruled out by exploratory operation.

S. A. SPILMAN, Ottumwa: My experience in these cases is not so large, but what I have will bear out this statement: that most of the trouble is a lack of a careful history taking—far more than a lack of examination, and as much or more than failure of laboratory findings; for in the majority of cases in which I have been called on as a consultant in obscure intestinal disorders I have had no history to rely on, or practically none.

FRANK M. FULLER, Keokuk: In the discussion of these papers I think we sometimes have thoughts suggested to us more in a general way than we have by the papers themselves; and it has been my experience as I go from one society meeting to another, as I occasionally like to do, that I find the same idea often coming out in successive meetings. The one that has been impressed upon me thus far in this meeting this morning is that while surgery has taken such a prominent place because of the wonderful advances that have been made in recent years, we are coming more and more to hear this one fact reiterated, as I have heard it reiterated now three or four times within the last fortnight: that our accuracy of diagnosis and the efficiency of our treatment in surgical diseases depends more upon the accuracy of the history and the clinical evidence as elicited by the general practitioner, more properly known as the family physician. And I believe, gentlemen, that we are becoming more and more impressed, as has been suggested here by two or three, and more particularly emphasized by the address upon Surgery, that the physical diagnosis of the attending physician is the important thing in the diagnosis of these cases. We don't make a sufficiently thorough examination in these cases, and we all know that when we do come to make as thorough, careful, full examination, as we are capable of making, we find that our work is well justified in the diagnosis, either as revealed by clinical evidence or by the surgical operation itself. I wish here simply to emphasize what has been said this morning two or three times—the importance of careful history-taking; and I believe if we will all make it a habit to take the history of every case, and if it be a surgical case, take that history to the surgeon, it will enable him to make a more definite, positive, certain diagnosis, for the benefit of our professional reputation, and primarily for the great benefit of our patients.

McGill University will grant degrees to all fourth year students who enlist with the Canadian expeditionary forces before the conclusion of the present college term. First, second and third year students will be given credit for full term's academic work, and on their return will be admitted to the class immediately above.—Chicago Medical Recorder.

POST-OPERATIVE ILEUS.*

J. R. GUTHRIE, M. D., Dubuque.

Dr. P. Lockhart Mummery, of London, in his valuable and concise work upon post-operative treatment of surgical cases, most emphatically declares that outside of infection meteorism, ileus is the most dangerous—most fatal complication which follows laparotomy.

The seriousness of this accident is recognized by those having large service in the great hospitals, both home and foreign, and the same view is confirmed by such standard authorities as Moynihan, Mayo, Robeson, Parks, Dudley, Kelly and Ochsner.

Your own experience and observation will doubtless tend to prove the declaration of Dr. Mummery upon this important point, correct.

In our brief study let us be restricted to post-operative paresis of the intestine, true ileus, ileus of the adynamic type as separate and distinct from that paralysis due to mechanical or septic causes.

Post-operative paresis of the intestine may be considered under three distinct types: Mechanical, Septic and Adynamic. This brief paper attempts to consider the last of these, and the writer is aware of the difficulties to be confronted full well.

A mechanical ileus is comparatively easy of recognition and likewise susceptible to treatment: An ileus due to sepsis may be avoided by a more rigid aseptic technique; but in the kind of ileus under present consideration, the cause may be obscure and consequently the relief tardy, inefficient, or, in a large proportion of cases, wholly futile. A very high per cent of adynamic ileus, die under all present forms of treatment, a truth which gives a reasonable excuse for this paper.

The clinical picture is clear, tragic and all too-frequent. The mother, in apparent good health, walks several blocks, takes a street car to one of the hospitals in our great cities, where she is operated upon the following day for a simple ovarian cyst by one of the most skillful of America's surgeons, and dies in 36 hours from incurable post-operative ileus.

There are three ghastly foes in the patient's pathway to the coveted goal of complete recovery: Sepsis, Shock and Ileus.

*Read before the Iowa State Medical Society Sixty-third Session, Sioux City, May 13-15, 1914.

Antiseptic surgery and modern improved surgical technique have accomplished much in the first and second of these conditions, but have been signally weak in the management of adynamic ileus.

It is interesting from an historical point of view to note that Sir Spencer Wells, in the year 1860, was the first to describe the condition known as post-operative ileus, and in the following year reports a case of ileus following a simple ovariectomy, and a secondary case in which the intestine was caught in the abdominal suture. Up to the year 1881 he reported 1,000 cases of ovariectomy with 11 cases of ileus, fatal, with no operative interference.

In the year 1878, Schroeder reports his first case of ileus operated with fatal result. Olshausen, one year later, reported a case of intestinal ileus post-operative that was successfully relieved by a subsequent operative interference.

In the year 1899, Shade reports all cases of intestinal ileus, many of them following hernia operations.

In the year 1900 and 1902, inclusive, Corner made a study of these cases in St. Thomas' Hospital, London, and found that a large proportion of them followed vaginal hysterectomy, more in these specific operations than any other pelvic operations.

Acute dilatation of the stomach is closely related to ileus paralyticus—closely allied, indeed, if it be not practically the same pathologic condition; and in the cases recorded the two conditions generally co-existed.

If it be true that shock produces a paralysis of the splanchnic and pneumogastric areas, then it is easy to understand that stomach dilatation and dilatation of the intestines might be associated, or that dilatation of the gastro-intestinal canal is a logical sequence of such an injury. Whatever is the cause of the disease, a primary paralysis of the muscular walls of the gastro-intestinal canal is the permanent lesion.

Ileus divides itself into two types—the mechanical and the adynamic variety. The clinical picture is the same in both types and is unmistakable, the classical symptoms being pain, nausea, vomiting of a dark-colored fluid, extreme restlessness, rapid pulse, meteorism and coprocrasia are always present in natural sequence.

The etiology of this serious complication is still a matter of debate and we believe will be

decided ere long, an achievement which will lead to improved treatment and more frequent recoveries.

It is practically well settled that this form of intestinal ileus is of frequent nerve origin, the influences coming through reflex nerve action. In this way the sympathetic may be injured by rough handling of the intestines and by the application and action of ligatures.

Second, it may come through peripheral nerve irritation. A man has an injury to a leg or a hand requiring amputation and suffers from ileus most intensely; and in one case under observation, it progressed to almost a fatal result. There was no abdominal operation.

Third, it may arise from a severe, profound shock to the general nervous system, as witnessed in crushing injuries to the extremities, in severe injuries received in factories, and particularly in railroad injuries.

The paralysis may be due to ether or chloroform narcosis. This has been clearly demonstrated where anesthesia had been produced for purposes of diagnosis without any operation at all being performed. Ileus and stomach dilatation have both been produced in this manner. It is thought the profound anesthesia may be responsible for lowering the vitality, or by reason of some specific action upon Auerbach's plexus, supplying, as it does, the muscular coats of the gastro-intestinal canal.

It is as yet a mere matter of conjecture what influence mental impressions may have on this condition. That there is some definite influence, all believe, though perhaps the positive demonstration may yet be wanting.

That a profound mental impression may have an inhibitory influence on the nerve energy, generated and distributed throughout the splanchnic and pneumogastric areas, no one now seriously questions. Profound fear, grave apprehension are undoubted factors in the production of this condition. The prognosis is always grave.

The causes of death in ileus is a question of dispute. Is it due to auto-intoxication? Experiments made upon a dog and results reported by McLean, of Detroit, seem to establish the fact that death in these cases did not result from toxins. McLean was unable to prove the etiological influence by his failure to demonstrate the presence of bacteria in the blood, and reports a negative result after injecting gastric and

duodenal contents into the body of the dog, or by injecting serum by transfusion into the blood. In all these varied experiments to prove the causal factor to be toxines the results have been negative.

In animals that died from experimental ileus the rapid loss of weight was striking and constant. Braun demonstrated that there was present a steady sinking of blood pressure as a prime factor in the fatal end.

The enormous loss of fluids by continuous vomiting is an element in causing death, the supply of fluids by subcutaneous injections postponing the fatal results.

When it is known that a severe blow over the solar plexus may cause death, may not acute ileus hasten death by a marked disturbance of these same nerve centers?

A patient with adynamic ileus presents a picture not easily mistaken and never forgotten. The marked increasing distension of the abdomen, regurgitant, black, copious vomiting, with the anxious, pinched facial expression, rapid pulse and labored breathing present a picture which is classical and distinct.

The question is, what is to be done? What method of treatment shall we adopt? These cases, under any and all kinds of treatment have a high mortality rate. The treatment of this disorder may be subdivided into three divisions: Preventive, Symptomatic and Operative.

Preventive treatment includes all those items lessening the tendency to the production of ileus:

1st, a careful preparation of the patient for operation, attention having been given to the nervous system, the kidneys and the bowels.

2nd, Abstinence from solid food for at least 24 hours before the operation. No food should be given by mouth for 24 hours after abdominal section.

3rd, Frequent changes of the patient's position favoring the development of normal peristalsis.

4th, A maintenance of the strictest sort of aseptic technique in operative work.

5th, Careful protection of the intestines and the most gentle manipulation of the same.

6th, A carefully administered anesthesia, not too deep nor too protracted.

In the symptomatic treatment we note, first, the use of a high rectal tube; second, gastric and colonic lavage, frequently repeated. This is a most important matter in the symptomatic treat-

ment of this disorder. By gastric lavages large quantities of black vomit may be removed from the stomach, reaching perhaps, in some cases, a gallon in amount. The patient shows she is much better. There is tranquil respiration, diminished pulse rate and general improvement and betterment. In a few hours the distension and distress re-appear, the washing should be repeated. The mistake is usually made of not resorting to gastric lavage promptly enough, and by a failure to frequently repeat the process. At the same time material benefit may be derived from instituting colonic flushings and these should be carried out with the same promptness and regularity as the gastric lavages.

Grosser advocates in these cases continuous stomach lavage by a stomach tube introduced through the nose as the very best means of combating acute atony of the stomach and the prevention of intestinal ileus. The nose is cocanized and a soft, oiled stomach tube is worked carefully through the nose into the stomach. As soon as it reaches the stomach the contents spurt through the tube and another tube may be attached and fluid syphoned into a receptacle. Fluids can be supplied by slow subcutaneous infusions of normal salt.

Grosser says it is more convenient to apply the tube and the infusion on the left side leaving the patient's right hand free. With the tube thus introduced the patient's mouth is so he can talk, swallow, have his teeth brushed, etc., while this method has many advantages over the old way. He has had fluid drawn away to the amount of five liters.

Westerman has applied this procedure in 15 cases; Kappis in 10, Grosser in 9, with success. He advises this method of the treatment of the vicious circle oft times established after gastroenterostomy.

In the medical treatment there is little new. The decided tendency is away from forcible cathartics, and the use of divided doses of calomel followed by enemas, to which is sometimes added with good effect milk of asafetida.

Eserine sulphate, 1/30 of a grain, hypodermically—has to its credit several cases of reported recoveries. The medicine may be used two or three times daily, at an interval of some six to eight hours, and may be accompanied by strychnine. Eserine has the effect of relaxing the spasm and brings marked relief.

The operative treatment, if it is to be successful, must be prompt and simple. The distension that has not responded to medical and symptomatic treatment must be relieved by ileostomy. Ileostomy rapidly relieves the distension and inhibits the influx of blood into the abdominal organs, and the lost fluids is replaced at the same time by salines used subcutaneously and by the rectum.

In cases of septic peritonitis with regurgitant vomiting, with ileostomy and drainage, many cases will recover. In cases of suppurative appendix a primary ileostomy is done when the appendix is removed, with the result of saving some of these otherwise hopeless cases.

DISCUSSION.

J. F. HERRICK, Ottumwa: The thought comes to me that adynamic ileus is so characteristic of a certain condition, that I felt like calling attention to it as a paralysis of the vagus system of nerves. The vagus, as we understand now, reaches all viscera of the body. Formerly the vagus was supposed to reach only the stomach and adjacent organs, but now we know that it reaches all visceral parts of the body. The picture described by the essayist is that of a paralysis of the vagus system, allowing all the blood of the body to accumulate in the large vessels, especially in the splanchnic vessels. If you have in addition to paralysis of the vagus an overstimulation of the sympathetic and dilatation of the vessels, you have a typical picture of adynamic ileus. This I believe is the real pathology of these cases.

The mention by the essayist of means of prevention, such as mental states, he looked after before the operation, and the avoidance of injury to the nerves ending either in the superficial tissues or in the intestinal or abdominal organs; all point to this paralysis of the vagus as a condition favoring adynamic ileus. Now then, you have a paralysis of the vagus system, allowing dilatation of the abdominal vessels, paralyzing the vaso constrictors and allowing the patient to bleed to death into the splanchnic vessels: Want of blood will produce the rapid breathing, produce a sense of pressure, and all the symptoms of adynamic ileus: The question is how to prevent it. The ways that the essayist has mentioned I believe are proper; but should we not be able to find some better way of preventing paralysis of the vasomotor system, or rather, the vagus system, and in that way save these patients? I believe that should be the aim in the future treatment of these cases.

L. W. LITTIG, Davenport: In support of the statement made by Dr. Herrick, and particularly because the point was made in the paper of the

essayist, I wish to refer briefly to eserine. The essayist made the statement that eserine relieved the spasm. Eserine is the great stimulant of the vagus. The intestine is paralyzed, as Dr. Herrick correctly stated. Eserine stimulates the autonomic system, and its value in dynamic ileus is not due to the fact that it relaxes spasm, but that it stimulates peristalsis. The great representative of the autonomic system, as all of you know, is atropine, and for that reason one would conclude that atropine in this condition ought to be contraindicated. The essayist also mentioned post-operative dilatation of the stomach. After one has operated for simple appendicitis for eighteen or twenty years, and then loses two simple cases from post-operative dilatation of the stomach, one is startled, and wonders whether, after all, it would not have been much better for himself and his patients if he had taken up some other profession. That is my experience. My two cases of post-operative dilatation of the stomach were plainly due to sepsis, because at the time that I lost these two patients there were three other cases of post-operative infection deaths in the house, and some five or six other cases of very severe but non fatal infection.

Personally I feel that dynamic ileus and post-operative dilatation of the stomach are due to infection. I never had a case of dynamic ileus, and some of you may think that is the result of a very limited experience. I simply wish to state that in some of the largest hospitals of the world the surgeons-in-chief say that they do not know how to treat this condition because they do not see it. I believe that you will not meet dynamic ileus if you are gentle in your manipulation of tissues, and pay attention to those prophylactic measures which the essayist mentioned.

DR. GUTHRIE: I am not at all surprised that my therapeutics may be a little lame, as stated by my friend Dr. Littig. I am probably not quite competent to speak on that point. I do know, however, that there is a difference of opinion among men whom Dr. Littig and I both recognize as being worth hearing and well worth repeating. The object which I had in view in presenting this brief paper was to draw out a discussion which might be helpful to me and to some others of you, perhaps, in meeting a condition which we have not all been so fortunate in avoiding. The case that I referred to in this paper, of a healthy mother applying to one of the most skillful surgeons in this country for the relief of an ovarian tumor, where the ability of the operator, the care of the operation from an aseptic standpoint, the operator's knowledge of anatomy, his efficient technique, leave no question but that from a surgical standpoint the operation was well done; and yet we have to record the fact that that young mother died in thirty-six hours afterwards from acute post-operative ileus. I have taken pains to correspond with

and in conversation approach four or five of the best surgical authorities in the middle west, and they have informed me that they have occasionally been confronted by this unfortunate condition of post-operative ileus, the cause of which is to them absolutely unknown. Now, when this is a fact, I appeal to you if it is not time, to seek the cause? In studying the literature of the subject, as I stated in the paper, the eminent authorities which we have been able to consult differ widely as to the cause of post-operative ileus. A few years ago, in consultation with a member of this convention, we operated upon a woman for carcinoma of the cervix uteri in its early stage, removing the organ by vaginal hysterectomy. In thirty-six hours after that this patient died from post-operative ileus—a death in my practice which I can never forget. It appears to me, Mr. President and Members of this Association, that attention should be directed to some means of prevention of a complication which, when once fully established, we are well-nigh futile in combating; I wish to utter a protest against the use of vigorous cathartics, and to earnestly indorse early operative treatment in the form of establishing a simple and prompt ileostomy.

PRESIDENT'S ADDRESS

AUSTIN FLINT-CEDAR VALLEY MEDICAL ASSOCIATION.

W. F. COBB, M. D., Lyle, Minnesota.

"THE DOCTOR."

You undoubtedly have heard of him, have seen him, have known him. You have heard many flattering things said of him, also many things that were not at all to his credit. You have met him under favorable and unfavorable conditions. You have known him personally and have known him as a friend you could tie to and you have known him as a most disagreeable factor in both your business and social relations; but taking him as a whole up one side and down the other, he is a pretty fair specimen of the genus homo. He has his faults and his failings, but whom of all the multitude of mankind has not? As a body, the doctor averages up with the best of professional or non professional bodies.

I do not intend to give you a panegyric on the doctor, but just a little plain talk, and not, I hope, to fulsomeness.

There are several kinds of doctors. The cancer doctor, the corn doctor, the pile doctor,

the hernia doctor, the urine doctor, the magnetic healer, the chiropractic doctor, the christian science doctor, the spiritualistic doctor, the botanic doctor, the bone doctor, the patent medicine doctor, all seeking to rake in the shekels, many times regardless of consequences.

These are not members of the tribe which I particularly wish to talk about, but about whom, incidentally, I have a little to say on the side. It is the educated physician, the one who has spent years in study and research, the one who patiently fits himself so he can intelligently and scientifically deal with disease in its various forms as it is brought to his notice. The long list of would-be-near doctors, generally uneducated, unskillful, unscientific, and often unscrupulous, are factors which the profession has to run up against as active competitors for business. The public, the dear people, the laymen, are many times an easy mark for these near doctors; and when men of sense decry their work, why then the cry is persecution. The dear people want to be humbugged and can you not let them alone so they may enjoy it without interference? And so the world goes along and the near doctor flourishes like a green bay tree. But to return to our subject: the doctor, the true doctor, the doctor who is of the right stamp, is a factor in the community in which he resides; he is supposed to be a mine of intelligence and should be endowed with a plenty of good common sense. Often he is regarded as a kind of oracle, a fountain of wisdom, and is consulted by the laity on a variety of subjects outside of his professional calling.

The country doctor is more particularly of this type and usually has more calls for passing his opinion and using his judgment and has a more diversified field of study and work than any other class of men.

Now let us consider what a doctor ought to know to treat his fellow men intelligently. He should know anatomy and be enabled to locate the nerves, bones, muscles, lymphatics, stomach, heart, liver, kidneys, glands, and the appendix. He should be familiar with the scheme of circulation, physiology, pathology, bacteriology, nutrition, chemistry, procreation and much more. By these studies, he finds that man is truly, fearfully, and wonderfully made and is lead to exclaim with the Psalmist: "What is man that Thou art mindful of him, and the

Son of man that Thou visitest him? Thou hast made him a little lower than the angels and crowned him with glory and honor." On the side he should understand farming, the raising of pigs and cattle, now called animal husbandry, mining, railroading, merchandising, and the raising of chickens. Not to know some of these side lines may be embarrassing to him when the promoter visits him with mining and railroad stock for sale or in some gilt edged mercantile venture. Usually he is an easy mark. The promoter interviews the doctor on all sorts of occasions and on all manner of schemes, and, as a rule, he finds a fertile field to work in.

The doctor as an individual and as a body, has many peculiarities. As a friend he is constant and faithful, as a neighbor he is always ready to meet you more than half way, as a visitor, in a social way, he is a failure except business be combined with pleasure. When officially called, he likes to visit as well as any one, but his professional work takes precedence of everything else. This is as it should be and for it he should be commended. As a collector of bills and accounts he is not an expert, but usually lets accounts run until actual need compels him to beg for his fees. As to his religious belief, it is a little mixed. While his work and constant experience with sickness and death tends to make him lean towards materialism, yet many a one courageously throws off this feeling, and accepts the teachings to be found in the Book of Life. Materialism is a hard belief to live by and a worse one to die by.

As the head of a family, I believe he will average up with the rest of mankind.

As a brother medical man, from a fraternal standpoint, he is not always up to the Golden Rule. Why the average doctor should look upon his immediate competitors with aversion, why he should consider him as an interloper, as an undesirable factor in the community in which they both live, why he should be ready to do the scalping act on every occasion is to me a conundrum. In my opinion, if there is any class of men who should be on friendly terms with each other, ready at any and all times to help each other out of a tight place, to counsel together and in doing so to protect and not knife each other, it is the doctor. The laity can do all the knocking necessary and from whom, of all people, the doctor gets his

share. For patience under these conditions the doctor is a worthy example. If he makes good, he may get the credit of it or he may not. A mustard poultice or a dish of herb tea, an application of home made salve or a poultice taken from the barn yard may put the doctor entirely in the shade. He has to compete with boneologists of several kinds, with the cured by prayer doctors, with the spirits in the air fakirs, with mesmeric practitioners and a long list of near doctors and graft fakirs who decry the work of the educated physician and in their ignorance, play upon the ignorance of others. Again the doctor is a kind of necessary evil, while a person is in the enjoyment of health he is not of much account, but let the body become ill and racked with pain, let even the shadow of the grim messenger with the scythe be seen approaching in the distance and the dear doctor is of some importance. His presence is welcomed and he is a mighty good fellow just so long as he is able to relieve the pain and prevent the approach of this shadowy personage, and if he fortunately succeeds in forcing him to take his departure for a time, then does the afflicted one gain courage rapidly and suddenly concludes that he has no further use for the doctor and sends him about his business, sometimes with a honorarium and sometimes without even a thank you.

As a charitable body, the doctor has few, if any competitors. He does more work without compensation than any other body of men and does it faithfully and conscientiously. He can never call his time his own, and is always ready for work night or day. He is exposed to all kinds of weather summer or winter, rain or shine, comes in immediate contact with all kinds of infectious, contagious and loathsome diseases, and literally takes his life in his hands and offers it on the alter of love for his fellow men. How many among the class of near doctors can lay claim to any such self sacrificing work? Playing upon the credulity of mankind has been practiced ever since the devil in serpent's form practiced upon Eve.

In closing, I wish to say that I am glad to be numbered in the body of educated physicians, and not in that other class whose practices resemble those of his satanic majesty. I am glad to be associated with a body of good fellows

who are all striving to help their fellow men.

I am glad to be a member of that body of men who individually and collectively are working to perfect the science and art of medicine and surgery. I am glad that I belong to that jolly body of men known as the Austin-Flint and Cedar Valley Medical Association.

I thank you for the honor which you have conferred upon me as President of this honorable body of men.

BRAIN ABSCESS WITH REPORT OF A CASE.*

L. C. KERN, Waverly.

Abscess of the brain is a circumscribed collection of pus in the substance of the brain; occurring as the result of purulent inflammation due to microbic origin.

It may be acute or chronic, and is secondary to disease elsewhere, or it is due to infection from without.

Brain abscess is a surgical affection and belongs especially to the otologist.

The general practitioner is usually the first one to see it in its early stages, and its timely recognition may enable proper treatment and perhaps save lives.

Brain abscesses may be acute or chronic. The infectious source may be situated in remote parts of the body, or it may be found in the immediate vicinity of the cranial cavity.

Local causes are by far the most important factors in the etiology.

The abscess is rarely primary, usually secondary, to (1) diseases of skull bones or scalp tissues (ear diseases, nose diseases and the like) (2) traumatic injury to the head. (3) Septic infection carried from some distant organ, lungs, bronchi, pleura ulceration, endocarditis, peritoneal infections, bone diseases, intestinal infections and fistula.

I mention fistula as it bears directly upon the report of the case I will present, and I found no mention in the literature of such a source of infection.

It must not be forgotten that corpuscular, pharyngeal ulcerations and pus formations in the orbital or nasal cavities, as well as purulent meningitis, may serve to transmit microbes to the interior of the brain.

These abscesses may be single or multiple; they

may be acute, sub-acute or chronic. Some of the chronic ones which have lasted for months or years, suddenly give rise to grave symptoms of the most alarming character.

The infection may be (a) through the lymph current, the sheaths of arteries, veins and nerves—, (b) through the blood by perforating veins, with or without septic thrombosis.

Most brain abscesses are due to a nearby local cause of which, (a) chronic purulent otitis media is the most frequent, with the resulting abscess, usually situated in the temporo-sphenoidal lobe or the cerebellum—, (b) Traumatic injury to head and scalp—, (c) Disease of cranial bones—, Syphilitic or tubercular is rather uncommon—, (d) pyemic abscesses and infection from a distant organ.

The fact that some of these infections in a distant part of the body occurred weeks and months before, should be kept in mind in making a diagnosis of brain abscess.

The germ at work is commonly the streptococcus pyogenes or staphylococcus pyogenes, the staphylococcus pyogenes aureus or albus. Others have been found as well, as the pneumonia diplococcus—, the bacillus pyocyaneus and the tubercle bacillus.

The abscess may be circumscribed or not; usually it has a limiting membrane, the character of which helps to determine the age of the abscess.

The contents of the abscess is usually a yellowish green pus, which may be foul smelling or not, according to the causative agent.

A thick surrounding membrane shows the abscess to be of long duration. Those in which the membrane is firm tend to confirm the opinion that the abscess is over three or four months old, and may be even several years old.

It is not my purpose to go into any detailed discussion of this subject, but to point out a few of the symptoms that lead to a correct diagnosis. I shall say little of the treatment, which is always surgical.

Age and sex bear a relation to the disease, more occurring in the male, and then between the ages of from twenty to fifty years. Few in young life or in the aged.

It is also more common in the laboring classes, as they allow ear troubles to go untreated and suffer more also from general infections.

*Read before the Iowa State Medical Society Sixty-third Session, Sioux City, May 13-15, 1914.

The Clinical History of Brain Abscesses:—

First: Is acute or chronic.

Second: Encapsulated or not, a collection of pus external to the brain substance is not considered a brain abscess in our discussion of the subject.

Third: Position of the abscess. Is it frontal, parietal, temporo, sphenoidal or cerebellar?

Fourth: The presence or absence of cerebritis, meningitis, or sinus phlebitis.

Fifth: The nature of the primary disease, whether middle ear disease, general pyemia or localized infection at a distance.

One realizes now the difficulty in arriving at a conclusion, when one thinks of the clinical types; but one can arrange certain cases under general type heads—as—

(1) Acute cases with definite and distinct symptoms.

(2) Cases in which the abscess is latent and unattended with cerebral symptoms, or in which the symptoms of abscess are overshadowed by those of the associated disease.

(3) Chronic cases.—

The general symptoms of brain abscess are very variable. If it follows middle ear disease, we find an exacerbation of those symptoms of otitis media, pain in ear and head, temperature, rapid pulse, anorexia, coated tongue, foul breath; may have vomiting, headache is apt to be intense, There is general apathy and drowsiness, optic neuritis, delirium is not uncommon. Later emaciation and increased drowsiness, coma and death.

Optic neuritis may be absent. It is not so common as in the brain tumor and is one point of distinction sometimes.

Absence of fever in the chronic type is in favor of abscess, even subnormal temperature is not uncommon.

Chills and a high temperature suggest meningitis or sinus phlebitis.

A slow pulse in the early state of abscess is not uncommon, later it is more rapid and irregular.

Intracranial pressure may not be a disturbing factor unless the abscess is growing rapidly, when one gets the same symptoms as in a growing brain tumor. If the pressure is high, then optic neuritis occurs, with or without hemorrhage.

About this time if there is still more disturbance of the tissues around the abscess, there oc-

curs general epileptiform convulsions, vomiting, impaired vision, injured memory and dullness of intellect.

In the diagnosis one must differentiate from:

(a) Sinus phlebitis; high temperature, sweats, previous ear diseases assist us here.

(b) Meningitis and other septic brain diseases.

(c) Cerebral tumor.

In some cases of encapsulated abscesses, the diagnosis is extremely difficult and may be impossible. I think in a general way one wants to bear in mind:

(a) Presence or absence of causes for abscess.

In cases of ear disease or septic conditions anywhere in the body, one can have the headache, vomiting, optic neuritis, changes in temperature and pulse, but in such a case beginning rather suddenly, the chance for abscess is great.

(b) Previous history of case:

Did it come gradually or not? An abscess grows more rapidly than a tumor.

(c) Nature of symptoms:

Tumor grows slowly, with more severe symptoms.

Double optic neuritis temperature no guide pulse may be slow in either case.

Marked emaciation favors abscess; sudden beginning of symptoms favors abscess

(d) Situation of lesion; most abscess are in either cerebrum or cerebellum.

The latent period of chronic abscess may have no symptoms whatever and none may show until the terminal period arrives, as will be shown in the history of my case:

Mr. A. A. B., Scotch descent, age 56 years, weight 240 pounds, married, three children, druggist.

A well built man who boasted of the fact that he never saw a sick day, never knew what a headache was. General health good, except for eyes, wore glasses for years. I knew him well and saw him every day.

Was called at nine o'clock A. M. on June the 4th, by his brothers to go and see Mr. B, as he was reported to be sick on the railroad tracks a half a mile away. Reached him soon and found him lying on his back, face cyanotic, eyes red and suffused, stertorous breathing, pupils pin point. Blood on face and lips. He had fallen on the rail and had a cut on left forehead about one and

a half inches long and extending to the skull. Picked him up and brought him home and when washing his face and getting the cinders out of his eyes, he went into an extremely severe general convulsion lasting several minutes. It took several men to hold him on his cot. I called Dr. Risk and with his assistance I did a venesection, removing one and a half pints of blood from left arm. Gave him morphine, one-fourth grain and put him to bed, with ice cap to head. He slept most of the day and in the evening got up and wanted to know what had happened. He was confused and had some aphasia. Knew what he wanted to say but failed to find the word.

Had no headache, had slight paralysis of right leg and arm, with ptosis of left eye.

On questioning him he said that for several days he had heard singing noises and they always seemed behind him.

He had the habit of walking to relieve any little sickness, so he went for a walk to cure this, but after picking flowers and getting one mile away, he turned back to town, looking back several times as the noises in his ear sounded as if a train was bearing down upon him.

Temperature normal, pulse slow.

Next day attempted to work, but had headache and went home.

He went to the store against my advice. After the second day he had more headache, less vision and increasing drowsiness.

Now at this time we were confronted with the question of diagnosis. Did his fall and injury cause a clot to form, disturbing the motor area on the left, or was it from the original trouble?

He was observed by a lady to whirl on the railroad track and then fall. I assume and still believe that he had his first convulsion out there.

Things getting worse, Dr. Van Epps of Iowa City was called and diagnosed brain tumor.

Still no improvement and Dr. W. E. Schroeder of Chicago came out and diagnosed brain tumor and operated.

Large flap taken from left temporal region and dura incised. No tumor or abscess found. Several organized clots under site of injury on frontal lobe.

We had evidence of great increase of intracranial pressure. The meninges showed evidence of recent inflammatory processes probably due to the injury received when patient struck

his head on the rail. For diagnostic purposes the brain was needled in several places, but without discovering anything. The dura mater was stitched and bony flaps replaced. The wound was closed without drainage.

The patient at the time of the operation had been very drowsy for a week or more. At times able to speak a few words in answer to direct questions but would sit in his chair or lie in bed with his hand upon his head as if suffering with extreme headache, and indicated that such was the case when asked the question.

He had complete paralysis of the right arm and leg and the left side of the face. He had ptosis of the left eye.

At this time I asked our eye specialist, Dr. R. E. Robinson, to see and examine Mr. B. From him I get the following report:

Eye Findings of A. A. B.

Vision had not been good for years, due to maculae in both cornea. At the time of examination his acuity of vision could not be taken, due to his general condition. Anterior chamber normal. Pupils about normal in size, round, and reacted to sight. Lense clear. *Fundus* both disks slightly swollen. Veins a little darker than normal and slightly more tortuous. No hemorrhages present.

At time of operation, fundus of both eyes showed much more swelling of the disks, veins greatly swollen and very tortuous, with numerous hemorrhages in and around the disks.

LATER (two weeks) very little fundus changes from previous findings.

We had then treated this man for some time and had four or five of our medical friends in Waverly see and examine the patient; had the report of the eye specialist; had an internist of excellent reputation; a surgeon of extensive experience in brain surgery; had performed an operation, and still not one of us had mentioned brain abscess. It was from this fact that I had determined to report to this society in a very imperfect way, this most interesting case, and the results of our post mortum findings.

The patient brightened up somewhat after the operation. Was relieved of some of the intracranial pressure; improved somewhat from his paralysis, ate fairly well, was still very drowsy, but seemed to know what was said to him.

This improvement lasted for about two weeks,

when it seemed as if a collection of serum had formed underneath the skin flaps and this was opened, relieving two or three ounces of bloody serum. This was followed by a hernia of the brain tissue, which I had to remove from time to time up until the end.

The patient now became still more drowsy and somnolent, with the paralysis and all other symptoms increasing; until after lying in a comatose condition, the patient died.

It was pointed out to the friends and relatives, that after all the care and treatment of our patient, including an operation by a distinguished surgeon, that none of us knew the exact pathology that caused the death of this previously healthy individual.

A post mortum was allowed and the findings were as follows:

Assisted by Dr. R. E. Robinson, the calvarium was removed in the usual way. The dura mater was found very adherent to the skull bones, especially over the frontel and other lobes of the left side of the brain. The frontel lobe of the left side showed evidence of injury due to the fall of patient upon the railroad track, and we found a small organized clot with some destruction of brain tissue. The adhesions were separated and the brain removed from the cranial cavity. A slight bulging in the back part of parietal lobe of the left side was found, and further examination revealed a soft tumor mass about the size of a goose egg. The brain tissue about this had undergone a white degeneration, causing a softening of the tissue immediately around the growth.

Further examination disclosed the fact that we were dealing with an encapsulated abscess, situated in the silent area of the brain.

The walls of this abscess were found, upon opening, to be of considerable thickness; the contents was a thick greenish pus with a rather foul odor.

The large vessels entering into the walls of the abscess clearly demonstrated the fact that we were dealing with a growth whose life history dated back some time, and estimated by my colleague, Dr. Robinson, as possibly being of two or three years duration.

The area about the abscess for three-eighths to one-half inch showed distinctly a degenerative process which had undoubtedly increased in the last few weeks of the patient's life; but it is also

true that it was the change in the terminal history of this abscess, that suddenly within a few days, brought about in this otherwise healthy man, such alarming symptoms as his sudden ending with a severe convulsion and fall upon the track.

Whether or no this disturbance of the motor area was due to the growing abscess or to the hemorrhage induced by the fall, we cannot positively state.

By this time it is evident the impressions this case made upon my mind, and it is to possibly help someone else that I have brought these few remarks together.

To criticize myself, I wish to state that the first error that I made was the one to my mind, that should have been the key to unlock the mystery of the diagnosis. In other words, I knew and had known for many years, that this man suffered from a rectal fistula which was constantly discharging pus, and had I remembered that we had a possible source of infection which might cause a brain abscess, possibly the diagnosis of brain tumor would not have been made if we had taken this fistula into account.

Furthermore, I wish to state once more the importance of the history of every case and the thorough examination after.

DISCUSSION.

H. G. LANGWORTHY, Dubuque: While not a great deal can be said in a brief discussion especially when so many interesting features spring up, nevertheless I have jotted down one or two particular points which have arisen in my own practice especially as relates to a recent case which I handled just a few weeks ago.

The first point that impressed us in all these cases is the necessity of team work; that is, the need in these obscure cases of frequent consultation and securing other opinions and information to add to and check our own. In addition to a reliable eye, ear, nose, and throat report I should say by far the most important and not to be neglected is the opinion of an expert neurologist. The need of consultation with a neurologist I believe is more important than we ordinarily realize in brain work and we should do this if possible for our patients' sake. Oftimes in many cases I feel that if I can get the opinion of a good neurologist fairly early he can often place his finger more definitely perhaps upon the point of trouble, so that one can operate.

The second point as regards treatment is this: If an early diagnosis can be made, we should immediately attempt some definite operative procedure and not wait until it is too late. An early,

well directed operation will save many cases our autopsies teach us which must otherwise be hopelessly lost. If an abscess is not located on one side we should trephine at the same time the temporo-sphenoidal region on the opposite side rather than desist with but one attempt.

As illustrating the difficulty in diagnosis, I would like to cite a case of my own of a few weeks ago. (I pass around a picture of the brain.) The young woman began first with ear abscess on the left side, developed mastoid trouble, ran along a number of weeks before I saw her, and I performed a mastoid operation on the left side. The ear cleared up and also the mastoid. About the time the healing of one mastoid had taken place she developed an acute abscess and mastoid on the other or right side. This also I operated but she still failed to improve continuing to run an intermittent temperature with a little vomiting and we were puzzled as to just what was taking place. Here were two ears, one practically well but the other acutely inflamed draining however well so far as could be ascertained. There was at first no trouble with the eyes and we thought surely a meningitis was developing on the active side as she had some meningeal symptoms. However, as time went on we discovered one morning a slight optic neuritis and a slight motor aphasia, the first suggestive localizing brain symptom encountered. Not hurrying to explore the brain we allowed a few days to slip by until she suddenly collapsed with probable rupture into the fourth ventricle and died.

At autopsy this abscess, much to our surprise, was not on the right side of the head i. e. the active side of inflammation at all, but on the left side which ear and mastoid had been well some weeks. A carious tract was found extending from the left middle ear under the dura forward for an inch before it perforated through the dura infecting the brain. I feel in this particular case if we had had a neurologist to emphasize the importance of the very slight motor aphasia we might have operated immediately on the right side and failing to find the abscess operated the left, struck the abscess and possibly saved the patient.

DR. W. L. BIERRING, Des Moines: The report of this very interesting, and one might say, unique case of the essayist, brings out two very interesting points. One is the unusual brain metastasis from an old rectal fistula, and emphasizes again what has been discussed so much today, the importance of small focal infections. It seems that in addition to endocarditis and arthritis and the various other forms of secondary processes that develop from local suppurative infections, we must add that of chronic brain abscess.

The second point about this case is the difficulty in making a diagnosis of the so-called

pseudo-tumor condition. As the essayist has well outlined, the symptoms were sufficiently typical so that many good men recognized this as a tumor of the brain; and yet the history of a chronic infection should, as he has said in his conclusions, have been regarded with much more importance. But I venture to say there are many other instances where we have pressure phenomena, and have all the typical signs of an intracranial lesion, where it is impossible to differentiate these so-called pseudo-tumor conditions from real neoplasms.

All this again emphasizes the great need of careful history taking and of giving more importance to focal infections, even though they may be at great distances from the terminal process.

WM. JEPSON, Sioux City: This is a very opportune topic. There is probably no anatomic area outside of the bones wherein we will have in store for ourselves so many surprises as we will in connection with infections of the brain, provided that we attempt to apply in the interpretation of the pathologic processes in the brain, the same rules that guide us elsewhere. For example, we are all of the opinion, I believe, or practically so, that if the soft structures of the economy should have pathogenic germs carried into them, there would be clinical manifestations of their presence within the period of a couple of weeks; and if not, we feel that infection has been averted, or at least clinical manifestations, and you do not any longer think that there will at a remote period—say two or three months or two or three years, or even multiplied by another three—appear an abscess. This, however, is not true in connection with infection of the brain. My own experience, I will admit, is limited; I have only seen four cases of brain abscess from bullets that have been carried there, five that have resulted from trauma, and I have only seen one case that has resulted probably from infection by way of the blood stream for years, except a couple that were tubercular. The others that have come under my observation have been of direct extension from the middle ear.

By the way, I wish to relate here a case that I saw last fall that I think was phenomenal. It was that of an Indian lady 46 years of age, who presented a small sinus with an oedema of the scalp, which she said from time to time since she was a child had been suppurating every five or six weeks. To my surprise, when this was exposed the bone was probably nearly half an inch thick, through which there was a small opening; and when this was removed there was an extra-dural abscess that held probably six or seven ounces of pus, and the dura had become so hard that it became necessary to remove the parietal bone so that the scalp would fall down upon it and eliminate what would otherwise be a pus forming cavity.

Returning, however, to the suppurating within the brain itself, there is this peculiarity, the susceptibility of the delicate tissue to the presence of the germ, with the result of an active inflammation; and if the inflammation is limited we get a circumscribed and resistant cyst wall if you please, and from that time on, gentlemen, the history is just the same or similar to that of an unseen cerebral cyst, and it is a question if there are any symptoms that one would recognize it by except when, as occurs from time to time through a lowered vitality on the part of the cyst wall, there is a slight invasion of the under-content germs within the abscess cavity. Sooner or later—within five, ten or fifteen years—that cyst wall gives way, leading to a reinfection of the brain of the fulminating type, and the attendant symptoms that we have here mentioned. It is not an uncommon thing; in fact, I believe there are one or two gentlemen in this room that know the young man who happened to have but a fracture of a frontal bone, and in whom an abscess formed containing seven ounces of pus, displacing practically all of the left hemisphere; and that boy was able to go about his work and plow corn and come in and see his doctor. Now, this was not due to the fact that this brain structure was destroyed, but it was displaced; and if this displacement takes place slowly, so that the cerebral tissues can accommodate themselves, this may go on to a large cyst or abscess, whichever you may call it, and yet without marked symptoms.

DR. KERN, Closing. As has been said by Dr. Bierring, the taking of a minute history and getting the story of the case is very important. To my mind, had I recalled the fact, I well knew that this man had a history of a rectal fistula which had been discharging pus for a great many years—I think about thirty, and one day I heard this man boastingly say that he never saw a sick day, never had a headache, and did not know what it was to have a pain in his head. He went with me upon a trip to California, spent six weeks on the coast, climbed mountains, swam in the ocean, and did all sorts of stunts in running and foot-racing, doing all these things with this abscess there, as I believe. It was only at the terminal stage, when the process of degeneration around the capsule came about, that he had these alarming symptoms that finally resulted in death.

CASUALTIES IN THE GERMAN MEDICAL CORPS.

The army surgeons of all nations, but apparently especially of the Germans, have suffered very severely in the present war. Up to the middle of October 135 of the German medical staff were reported killed, wounded, or missing, seventy-four of these having been killed. In the entire Franco-German war of 1870-71 only eleven German surgeons died on the battlefield or from wounds there received.

TETANUS, ITS EARLY RECOGNITION AND TREATMENT.*

R. H. PYLES, M. D., Hudson, Iowa.

If we expect to get the best possible results in the treatment of what few cases of tetanus that we, as general practitioners, are called upon to treat, with our present knowledge of the therapy best suited to nullify its progress it is of the utmost importance that we recognize the first signs of its presence. Until numerous charges of toxin have penetrated the central nervous system no clinical symptoms are perceptible and as our present neutralizing agent, the tetanus antitoxin, only acts upon the circulating toxin, every minute lost in detecting our adversary's identity, lessens our opportunity of winning the battle. It is not my intention, in this brief paper, however, to review all of the varied text book symptoms familiar to all of you in their alphabetical order of appearance, because the few cases it may be our lot to get, during our professional life time, in all probability will present different initial symptoms. Occasionally we may be called upon to attend a case that has been diagnosed by the family, before calling a physician. In a great many instances of this kind, the central nervous system has become overwhelmed with a fatal charge of toxin and the most energetic attention is of no consequence in overcoming the toxemia. This is not the class of cases I wish to dwell on, however, because we cannot feel the full responsibility of failure, when the odds are so unproportionate. Occasionally we are favored with a case where immediate recognition of danger, and prompt action will lower our mortality rate. In this class I wish to include, those who come to us for the primary dressing of wounds, and those who are led to a physician by the first annoyance of developing toxemia. For the first class we are fully responsible, with our knowledge of the prophylactic efficiency of anti-tetanic serum, which requires no argument for its support and the careful and radical cleansing of wounds, at all suspicious, or where there is any possibility of tetanus developing, our mortality should be almost nothing. It is in the second class, or those cases in which infection has taken place, large quantities of toxin are circulating in the blood and some of the poison has penetrated the central nervous system, producing the first evidence of its presence. Every wasted moment from now

*Read before the Austin-Flint-Cedar Valley Medical Society, July 15, 1914.

on raises our mortality rate. It is generally conceded that the shorter the period of incubation, the more grave the prognosis, while no doubt this is true, as in all other acute infectious diseases, according to the susceptibility of our patient we frequently find that by hastily reinforcing our protective agencies in the circulation, some of these cases are able to overcome what would seem, almost, an overwhelming deposit of toxin as soon as the supply reservoirs have been closed.

The case that I have the pleasure to present here today, I feel belongs to this class. With the knowledge we have, at present of tetanus, our treatment must be directed to the control of two separate conditions. First, to neutralize the circulating toxin with adequate doses of tetanic anti-toxin, and secondly, to lessen the irritability of the nervous system and thereby control the muscular spasms. For both purposes numerous methods have been advocated and in most instances results worthy of notice shown by the author. Those receiving the most favor are first, Meltzer's and Auer's method, in which magnesium sulphate is injected subcutaneously or preferably intraspinaly to control muscular spasms. Second Bacelli's method, which consists of giving a 2% carbolic acid solution hypodermically. Third, the treatment by anti-tetanic serum alone, and in combination with chlorotone. Of these methods the intraspinal and intra-dural injection of magnesium sulphate and tetanus anti-toxin, and treatment with tetanus anti-toxin and chlorotone offer the most satisfactory therapeutic results. The mortality percentage reports being about the same in each. Our selection, in private practice, must be made from the standpoint of safety. The magnesium treatment is based on the researches of Meltzer and Auer, who demonstrated that magnesium sulphate and chloride when injected subcutaneously in proportion of 1.5 grammes per kilo. of body weight produce complete muscular bodily relaxation and abolition of all reflexes except the conjunctival and trigeminal. Doses exceeding 2 grammes per kilo. are followed by arrest of respiration, the heart continuing for a time after, and blood pressure being maintained, which makes resuscitation possible, if we have an O'Dwer apparatus for intralaryngeal insufflation. Goeppe and Eshner, of Philadelphia, report a case successfully treated with tetanus anti-toxin and magnesium sulphate

intraspinaly, discarding chloral and bromides as inefficient, after five days use. Willetts, of Pittsburgh, has reported three cases treated and cured, with subarachnoid injections of a 25% solution of magnesium sulphate. But in contrast to these and numerous other reports of cases treated successfully in the same way, Dr. C. P. McClintock and Dr. W. H. Hutchings, of Detroit, Mich., in their experimental research to determine the relative value and safety of the various methods of treatment offer the following test treatment on five sheep with magnesium sulphate: two were given 1.25 gm. per kilo. body weight and three were given 2.50 gm. Those receiving the smaller amount showed no effect whatever, and the latter all died of magnesium sulphate poisoning.

In support of the curative effect of tetanus anti-toxin Ashhurst and John ascribe the failure to get results, in most cases, to the small quantity of serum used and method of administration. In one case treated by subcutaneous injection 224,000 units were given in three days, those treated by intraneural, intraspinal and intravenous injection were given from 80,000 to 100,000 units of anti-toxin during the course of the disease by the three routes mentioned, with a mortality of about 70 per cent. Dr. Walter V. Brem, of Los Angeles, in a recent article on the rational method of treatment of tetanus as suggested by Ashhurst and John reports a case of cephalic tetanus treated successfully with 98,000 units of tetanus anti-toxin, 23,000 units were given intraspinaly, 60,000 intravenously, 8,000 subcutaneously and 2,000 units infiltrated around the site of injury, but muscular spasms were controlled with chlorotone, as high as 60 grains being given per rectum in olive oil in one dose, which illustrates very forcibly, to me that tetanus anti-toxin in any form of administration or in large or small doses, is not sufficient to cure tetanus, but that it has a definite neutralizing effect upon the toxin still in the circulation. As tetanus destroys life, partially by overwhelming the tissues with its poison and, partially by the exhausting effect of the convulsions, the best that can be accomplished with our present knowledge of the subject, in conjunction with tetanus anti-toxin, is the selection of an adjunct to allay muscular spasm two of which excel all others, magnesium sulphate and chlorotone. As chlorotone has the advantage of being decidedly more safe and in case reports

where it has been used it seems to possess an equal therapeutic value. I have used it preferably in the case which I shall now report, and in one subsequent case with a perfect mortality.

Report of Case.—The patient was a boy five years old, fairly well developed, he came to my office with his mother on November 28th, 1912, about 10 a. m. with the following history:

On November 22, while playing in the chicken yard he fell and run a splinter in the palmer surface of the left hand, penetrating the palmer fascia and muscles. After coming to the house, part of the splinter was removed, but owing to the pain, caused by extraction, at least one-half was left to slough out. At the end of the third day pain was so intense that mother succeeded in getting what she thought to be the remainder of splinter. The hand was then bandaged with a moist dressing of carbolic acid one drachm to one pint of sterile water. The condition instead of improving grew worse and more painful, until on November the 28th, the child was brought to my office at 10 a. m. Examination revealed a small punctured wound, slightly inflamed with some muco purulent discharge, some swelling and flexor tendons decidedly contracted, producing agonizing pain when an attempt was made to straighten them. Becoming suspicious that the infection might be due to bacillus tetanus, owing to the marked contraction of tendons and extreme sensitiveness of wound, a general examination was made. Oral temperature taken was 99.5; pulse, 110. The chest and abdomen were normal. Urine analysis was negative for albumen and sugar, the specific gravity 1.016. The urine examination was made immediately, as I had taken patient through an attack of parenchymatous nephritis, 16 months before. The muscles of the back were, I thought, slightly stiffened but chin could be lowered almost to sternum without much pain. The reflexes of both upper and lower extremities were exaggerated, also abdominal reflexes. Kernig sign was absent. The muscles of the neck were not noticeably stiff upon lateral motion. The mouth opened and closed without any perceptible difficulty. The wound was bandaged with moist aluminum acetate dressing. Ten minims of neuclin were given hypodermically, and one grain of calomel per mouth. The child returned home. He rested somewhat easier during the day, and I saw the case again at 9 p. m. the same evening. Taking a physician with me, the patient was anesthetised, and hand lanced deeply. The tissues surrounding the wound were infiltrated with 3,000 units of anti-tetanic serum and the hand and arm dressed as before. At this time no perceptible change had taken place in the systemic condition since morning.

Nov. 29th.—The patient came to my office at 11 a. m. Oral temperature was 99.6-10, pulse 108, masseters rigid, jaws opened about one-half

inch with difficulty. He complained of severe pain in the affected arm and back, at intervals of about thirty minutes at which time involuntary muscular contractions were noticeable in affected arm. All the reflexes were more exaggerated. Patient was taken to the Presbyterian hospital at Waterloo, put to bed. 3,000 units of anti-tetanic serum was given at 4 p. m. subcutaneously. Chloral and morphine were given to quiet tonic muscular spasms, which were becoming more frequent. At midnight patient was still restless, diaphoresis profuse pulse 110 and temperature 100.

Nov. 30.—No perceptible change in patient during the forenoon. Pulse and temperature about the same as the day before. At 11 a. m. 1,500 units anti-tetanic serum was given subcutaneously, dressing changed on wound, chloral and bromide given freely, seemingly with no effect. The muscular spasms increased in number and trismus was pronounced during the convulsive seizures, opisthotonos slightly perceptible, pain in back more severe. Patient spent a restless day.

Dec. 1.—Temperature 100.6, pulse 116, respirations 37, patient still restless, muscular spasms more frequent, deglutition difficult, wound redressed, patient given 3,000 units of anti-tetanic serum intramuscularly. Chloral and morphine were used p. r. n. for control of spasms. The pulse and temperature continued to rise during the day and respiration became more labored, reaching a maximum at midnight when pulse reached 160, feeble and intermittent, temperature 103.2, respirations 60. Opiates withdrawn for the night. The heart was stimulated with camphor in oil hypodermically and nutrient enemata of spirits frumenti in normal saline p. r. n.

Dec. 2.—Pulse and temperature remained about the same in forenoon. Chloral hydrate and morphine sulphate were again ordered to control convulsions which were recurring with more severity and only about five to ten minutes apart. Opisthotonos was so pronounced that space between occiput and heels measured about 2 feet. Spirits frumenti in saline solution was given regularly at four hour intervals. Camphor in oil p. r. n. 2 doses being given in 24 hours. The temperature at noon was 104, brachial pulse 170 and the patient cyanotic. Muscles of deglutition paralyzed, which necessitated withdrawal of nourishment per month, for the time being. At noon patient was given 1-100 of atropine, morphine and chloral hydrate were withdrawn and at 2 p. m. 25 grains of chlorbutonol or chlorotone were given per rectum in one ounce of olive oil. At 6 p. m. the dose was repeated. No anti-toxin was given during the 24 hours; at 10 p. m. the pulse was 160, stronger and of better quality. Convulsions were less severe and of short duration. Patient rested quietly until 1 a. m. At 3 a. m. pulse had reached 172, weak and ir-

regular clonic muscular spasms returning. $\frac{1}{2}$ c.c. of camphor and oil H" and 20 grains of chlorotone per rectum. Patient rested fairly well after 4 a. m.

Dec. 3.—I saw the case at 10 a. m. Pulse was stronger than the day before but rapid and irregular. There was a noticeable change in muscular rigidity. At 10:30 a. m. a lumbar puncture was made and 10 c.c. of clear fluid was withdrawn and 3,000 units of anti-tetanic serum given intra-spinously and 1,500 units deep in the gluteal muscles. Owing to the lack of facilities at the time no examination was made of the spinal fluid. At 11:30 a. m. pulse was very rapid and weak and could not be counted with accuracy. Patient evidently suffering from shock. $\frac{1}{2}$ -c.c. of camphorated oil and 1-150 of atropine were given hypodermically. Pulse became stronger during p. m. and patient had no severe spasms, but numerous muscular twitchings of short duration. At 9 p. m. temperature was 102, pulse 170, respirations 60. Patient becoming more restless, 15 grains of chlorotone were given at midnight, patient was quiet until morning.

Dec. 4.—Patient much improved. Maximum pulse 150, minimum 140, temperature varied from 100.2 to 102, respirations dropped to 36. During the 24 hours 16 ounces of nourishment were taken per mouth. Chlorotone was given as necessary to allay spasms 20 grains being given in 24 hours. Nutrient enemata of liquid peptonoids and spirits frumenti in normal solution were given every 4 hours. No anti-toxin was given.

Dec. 5.—Pulse varied from 150 to 160, temperature 100.6 to 102, the respirations did not exceed 40, the jaws could now be opened about 2 c.m. at restful intervals. Twelve ounces of nourishment was taken per mouth and nutrient enemata continued at 4 hour intervals. The opisthotonos was not so pronounced, the abdominal muscles less rigid. The convulsive seizures were very few. I should say, not to exceed 7 or 8 in 24 hours, excepting those produced by the dressing of the wound. The wound was improving but still draining freely. The bowels and urine were still involuntary, but most of the nutrient enemata were well retained.

Dec. 6.—Patient's condition improved. Temperature p. r. record slightly lower than the day before. The muscles of the back were not so rigid and jaws opened wider. Patient suffered less pain, but slight muscular spasms at frequent intervals were more noticeable after 10 a. m. than on the day before, probably due to the decrease in the amount of chlorotone given. At 2:30 p. m. 1,500 units of anti-toxin were given intra-muscularly without producing any noticeable effect upon the patient. Bowel movements and urine still involuntary. Only 10 grains of chlorotone were given during the 24 hours.

Dec. 7.—During the forenoon the patient rested well, but at 1 p. m. began to be more rest-

less. The jaws were again locked during muscular spasms, opisthotonos was more marked and convulsive seizures more severe, while dressing the wound. 25 grains of chlorotone was given at 2:30 p. m. At 4 p. m. patient was perfectly quiet, pulse 140, temperature 100.2, but respirations 60 to 70 shallow and throat full of mucus. At 6 p. m. pulse reached a maximum of 170, weak and irregular. 1-100 gr. of atrophine sulphate and 1-30 gr. of strychnine sulphate H" were ordered given alternately every three hours. Continuous saline per rectum and heat applied to extremities. During the night condition gradually improved, the patient rested well until morning.

Dec. 8.—Patient's condition good, pulse varied from 130 to 148, m. temperature 99 2-5, max. 100 4-5, respiration 32 to 40. Mucus had entirely disappeared from the throat, muscles of entire body were relaxed more than at any time since beginning of attack. The abdominal reflexes and reflexes of both upper and lower extremities were still exaggerated and Kernig's sign was still pronounced. The convulsive seizures did not return and patient slept quietly most of the time. 20 grains of chlorotone was given in 2 doses during the 24 hours.

Dec. 9.—Subsequent History: From this time on patient made a slow, steady convalescence. There was no return of the muscular spasms. Trismus and opisthotonos entirely disappeared in a few days but the reflexes were still slightly exaggerated at the time patient was taken from the hospital on December 19th, owing to the virulent general infection and consequent low state of vitality, the daily efforts to keep the bowels open freely and crowding of nourishment at times when it could be given, the patient developed quite a troublesome entero-colitis during this period. For this condition patient was given small daily doses of bismuth salol and resorcin and 1 tube three times a day of liquid lacto bacilline with the hope that it might hasten the re-establishment of a healthy flora in the bowel. The symptoms subsided in 4 or 5 days and patient made an uneventful recovery.

Summary.—The points I feel may be worthy of notice in this case are first, the short incubation period of 6 days, which made the prognosis more grave and the perfect symptomatology from beginning of the attack. That the patient was given anti-tetanic serum as soon as possible after seeing the case, or before perceptible trismus, opisthotonos or convulsive seizures were noticeable. That, given alone, anti-tetanic serum is not sufficient to produce a curative effect after recognition of the disease is possible, but that it will neutralize the toxins in the circulation, but will not effect that which has penetrated the nerve cell. That chloral hydrate, opium and its alkaloids and the bromides will not quiet tetanic muscular spasms unless given in doses which

seriously endangers the patient's life by paralyzing both respiratory and circulatory nerve centers. That chlorotone will allay tetanic convulsions without noticeable depression of the heart or respiratory center and that the recovery of this case must be attributed to the combined action of 160 grains of chlorotone and 16,000 units of anti-tetanic serum, 9,000 intra-muscularly, 4,000 subcutaneously and 3,000 intra-spinously.

A NEW CONSERVATIVE TURBINATE OPERATION.

E. P. WEIH, M. S., M. D., Clinton, Iowa.

There is no question in the mind of the modern Rhinologists but what surgery is the only treatment in diseases of the nose that give satisfactory results.

We have a child with adenoids, as you all know, turbinates in these children are enlarged secondarily, due to the adenoid tissue. Now these vegetations are thoroughly removed and the child dismissed. This child cannot normally breathe through its nose, and still runs around with its mouth open. Its mother wonders why, but her anxiety is relieved by the doctor who answers her, by saying it is due to the habit the child had, and which it will soon overcome.

In many cases these turbinates will soon return to about their normal size, and in others, especially the older children, they do not. These are the ones in which the following operation is indicated. This method is called a double fracture, and was worked out by Dozent Henke in the University Nose and Throat Clinic of Koenigsburg, Prussia. The operation being taken and modified from Killian's single fracture of the turbinate in adults.

The technique is as follows: Use a Hartman's nasal dressing forceps, which is inserted so that it is directly under the attachment of the turbinate throughout its length. Now rotary pressure is made from outward going mesially and upward, thus breaking the whole turbinate off at its attachment, so that it now hangs loosely by its periosteum, connective tissue and mucous membrane acting as a hinge. Next a heavier forceps, such as a Lucas, is inserted so it is mesial to and above the turbinate, which is pushed, by pressure downwards and outwards, against the lateral wall of the

nose. Soon this fracture unites with the turbinate in its new position.

This procedure leaves breathing space between the septum and the turbinate throughout its whole length without destroying any of its functioning normal mucous membrane. The operation is exceedingly simple, bloodless, and can be performed under local anaesthesia. In the large number of children, so treated in Prof. Gerber's clinic in Koenigsburg, there is not a single bad result. Whereas if some of this normal functioning mucosa was trimmed off, or otherwise destroyed, as is often done, there is great danger of an atrophy with all its bad results following.

In the adult with hypertrophy of the swelling body, exactly the same operation is indicated. In true hypertrophy the mucosa and connective tissue, the correct trimming of the turbinate as theoretically given is difficult because of its location, so that the operator sees only the mesial side of the turbinate. I have often heard some of the best Rhinologists in this state and elsewhere say that their turbinate surgery was exceedingly difficult. It often happens, when the proper amount of mucosa has been trimmed off, the surgeon will not place his snare as he wishes, because he cannot see where it is going, and will, when tightening the snare, tear off a lot of mucous membrane from the turbinate.

If in trimming turbinates we first break them off as I described, it will leave them up against the septum so that we see a little of both sides of the same. Now bearing in mind that we will later replace the turbinate, we insert our scissors, trimming off, what, in our judgment, to be the correct, or theoretically the least amount possible and still get breathing space. Now when using our snare we can see both sides of the wire loop as it closes, and so get that part which we wish to snare off without any more. If now we take a Lucas forcep and push the turbinate laterally against the wall of the superior maxilla, one will be surprised as to the amount of space obtained between septum and inferior turbinate, also leaving all the functioning mucosa intact.

The amount of inflammatory reaction which follows this traumatism is not any more than what follows the ordinary trimming.

The Journal of the Iowa State Medical Society

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CHANGE IN FORM OF JOURNAL AND PLACE OF PUBLICATION.

It will be seen that commencing with the January number (No. 1 of Volume 5) there has been a change in the form of the Journal of the State Society. At a meeting in Chicago in February, it was generally understood that the journals of the state societies would conform to one of two types as to size of page, one which would include the smaller journals of the size our journal had maintained from the beginning, and the larger state journals would adopt a page 8x11 which would conform to the size of the pages of the Journal of the Illinois, Wisconsin and Michigan State Societies. Our journal will maintain the uniform size of 64 pages, including advertising pages. The new volume will commence with January instead of July so it will give the member who joins at any time during the year, the volume commencing with the year if he so desires.

The Journal will hereafter be published in Des Moines. The change in place of publication did not come from any dissatisfaction with the work of the former publishers, but because there was a feeling on the part of the profession that Des Moines was the more logical place for publication, and because the board of trustees was assured of a much larger advertising patronage. The cost of publication in Des Moines will be in-

creased slightly, but it is reasonable to believe that the increase in advertising will counterbalance the increased cost of publication. In this connection the Editor desires to express his high appreciation of the efforts of Dr. C. A. Boice in making the journal a success. Dr. Boice has very carefully watched the printing of the journal. He looked after the proof reading and has been very helpful in the matter of arranging material for publication. We hope to continue to avail ourselves of Dr. Boice's advice and assistance in the publication of the journal at Des Moines.

DR. MAYO GUEST OF DES MOINES PATHOLOGICAL SOCIETY.

About two hundred guests of the Des Moines Pathological Society listened to an address by Dr. Wm. J. Mayo, of Rochester, Minnesota, under the title of "The Septic Factors in the Three Great Plagues." Dr. Mayo reviewed the subject of syphilis, tuberculosis and cancer under the head of the three great plagues that are now afflicting the human race. The review had to deal with some historical facts, but particularly with the consideration of these plagues from the standpoint of their economic influence upon the human race, and dwelt in a special manner upon the scientific means of diagnosis and treatment, and also with the rational means of guarding against these diseases, which in so large a measure threatens the welfare of humanity. This address was listened to with the closest attention and with the highest sense of appreciation by a large and intelligent audience of medical men.

Dr. Mayo arrived in Des Moines early in the morning and had an opportunity of visiting the hospitals and observing the work which was being done both at Mercy and Methodist Hospital.

At a dinner given by Dr. Fay and Dr. Bierring at the Des Moines Club, Dr. Mayo expressed some views in regard to the profession of the future. He was of the opinion that the profession of the United States would soon become the leaders of medical thought; that Germany which had so long lead in medical science, must now surrender its leadership to our own country. Undoubtedly, as the speaker said, this would be hastened in some measure by reason of the great war being carried on in Europe, but the tendency to the change in the center of medical influence was becoming apparent before we knew that war

was to come upon the world as it did. This however is only a part of the history of medicine. In Sydenham's time, Leyden, Paris and Montpellier were the centers of medical education until the time of John Hunter who thought that a successful practice must be based upon close observation, and under whose influence the medical center of the world moved to London. Later under the influence of Bichat who extended the field of medicine beyond anatomical observation to the study of physiological anatomy, Paris again became the great medical center. Following this came the scientific and laboratory side of the work as exemplified by the great advancement in Germany by a school of pathology which laid the foundation for the most accurate clinical work in medicine and surgery. Under the teachings of these great pathologists, students from all parts of the world flocked to Germany for the purpose of securing a profound training in all the departments of medicine and surgery. Not only did these great scientific workers build up medicine from the standpoint of the laboratory, but were able to elaborate clinical methods of the most accurate character. Never in the history of medicine had the post-mortem amphitheater revealed such a wonderful amount of information. Within a few years some of our great medical schools and hospitals have developed the German thoroughness, but they have added an element which the German surgeons had not so carefully considered, and that was the operating room study of pathological changes. In this country great physicians also had studied at the bedside the problems which Germany had before studied in the post-mortem room, and then we began a development of the scientific side and the clinical, free from the traditions that had so long influenced the medical profession in the German world. Opportunity for this country then rests upon the combination of the laboratory and clinical side, and is in line of extending the work further than hitherto by a finer and more accurate operative technique.

Now that the great handicap has come upon Europe, whatever our individual views may have been in the way of excelling German medical and surgical work, it now falls to us whether we will or will not accept a burden that we cannot well escape.

Reviewing the conditions in the medical profession in Des Moines the past ten years, it be-

comes apparent from the remarkable progress which has been made in the hospital and laboratory work there, that Des Moines itself is in a position to contribute in a very important way to the progress of medicine and surgery. We were ourselves more impressed with this than a stranger would be because of the fact that we had been able to observe the work in Des Moines ten years ago. We have been able to note the condition of the hospitals, and we are now able to better appreciate what ten years has actually brought about. In our own state we are obliged to confess that we have not contributed as liberally to medical progress as we ought, and we are now beginning to feel the full measure of responsibility that rests upon us, and that a small group of our younger men will be able to place Iowa profession in the advanced ranks of medical workers.

THE WASHINGTON MEDICAL DEFENSE DEPARTMENT.

While it is well known that malpractice suits have enormously multiplied of late years in the state of Washington, the real condition is not realized except by those who have come in contact with their defense. The fact is that during the past year more cases have been brought in this state than in any of the twenty-one states containing a medical defense department. In the year 1913, one hundred and fourteen malpractice cases were filed in this state, while about ninety authentic cases have already appeared this year. The results obtained through the agency of the medical defense department of the state association have demonstrated its superiority in defense of the physicians of the association over anything that has been accomplished by private companies. While the great state of Texas in the past two years defended seventeen malpractice suits, the Washington association has handled thirty-two cases in the eleven months of its existence. Four cases were won in the superior courts while one has been appealed to the supreme court. Twelve are in the process of settlement, some of which will be adjusted without suit. Fifteen have been disposed of without trial, though suits were filed. At the same time the department has had the good fortune not to lose a case.

The small cost of defending these cases practi-

cally eliminates competition of private companies, due to the fact that members of the association volunteer their services, while the private company must pay for expert testimony, together with the refusal of members to testify against each other. These facts are so well known among the private companies that a number of suits taken by them have been turned over to the state association to be defended by the latter's attorney, a portion of the expenses being paid by the private companies. Light is thrown on this feature of the situation by the fact that one large private company during the past year collected \$2,800 in fees and spent \$8,700 in defense, as a result of which the company suspended business in the state. Private defense companies have found business so burdensome in the past two years that seven have ceased writing policies. In contrast to these facts the expense of the medical defense department is most gratifying. Its membership has numbered five hundred and seventy-two, each of whom contributed \$5 to the fund. While the private companies as a rule lost money, the medical defense department defended more cases than any two companies combined and has on hand a surplus of \$621.

In discussing medical defense at the state association meeting at North Yakima last month, the opinion prevailed that, while the association has been remarkably fortunate in obtaining such an extraordinary financial result for conducting so large a business, yet the margin is too small for the safe protection of the members and security depends on increasing the annual dues. It was, therefore, voted by the association that during the next year the membership fee shall be increased from \$5 to \$10. It is believed that, instead of having a surplus of \$600, this should be increased to several thousand as a sheet anchor in case of emergencies. It was the belief that, if another year's experience shows this amount is not needed, the fee can be reduced in following years. Considering the secure defense which the association has obtained during the past year, compared with the uncertainty of the private companies, it is believed the present members of the defense department will willingly pay the increased annual fee and that the membership will be very greatly enlarged during the coming year.

MEDICO-ECONOMIC LEAGUES.

We have on several occasions called attention to the new relations growing up between the medical profession and the general public, and the necessity of meeting these new relations in a logical way. We should not be taken by surprise when under some economic change in the industries or some legislative enactment imposes upon us additional duties, or as it may appear some new burden. The medical profession under the Aux Plains Branch of the Chicago Medical Society has organized an Economic Club; has sixty members and is growing rapidly. "The aim of the organization is to formulate plans for better economic conditions; to promote the common interest of practitioners; to enlighten the membership as to their rights, privileges and power for safeguarding their vital interests."

In New York eleven Medical Economic have merged into the Greater New York Medical Societies' Economic League. Previous to the breaking out of the war both England and Germany had organizations of this character. We would recommend to the serious attention of the Polk County Medical Society a movement of this kind. Perhaps headquarters could be secured near the cloak room of the capitol.

STATE SICKNESS INSURANCE IN OHIO.

We are informed by the Ohio State Medical Journal that there is a probability of the adoption of a State Sickness Insurance. It is stated that the labor leaders are making it plain that a bill providing for such insurance will be introduced into the legislature at no distant date. It is contended that the smooth working of the Ohio Workmen's Compensation Act will be extended to occupational diseases and will supplement the Compensation Act in that it will be a powerful incentive to the employer to surround the workman with better sanitary conditions. Inasmuch as industrial accident insurance tends greatly to the prevention of accidents, industrial sickness insurance would undoubtedly give like impetus to a state-wide campaign for the prevention of occupational disease. If sickness insurance should be adopted in Ohio a similar scheme would probably be adopted in other states—in Iowa it may be.—It is important that the profession in Iowa should keep this in mind and see to it that it is

fairly represented in working out a plan that will give the best results to all parties concerned. Much can be said in favor of sickness insurance, and it would no doubt work greatly to the advantage of the industrial classes and to better health conditions through the state and nation.

All these accident and sickness compensation and insurance acts appeal to the selfish side of medical and insurance interests as unnecessary and undesirable in that it places under state control that which we have so long regarded as private interests. After a considerable study of this subject we are inclined to believe that our interests will not suffer if we co-operate in working out in a large and liberal spirit. These workmen compensation schemes must bring about a very material change in the work of the general practitioner and in the adjustments of general hospitals, especially in what are known as the "open hospital." We are strongly inclined to believe that these workmen compensation plans will pave the way to the development of the municipal or county hospitals or what is sometimes known as the "Iowa Idea," particularly in industrial communities wherein the small ward provision will be necessary to meet the minimum rate demanded by the employer and the insurance companies.

No argument is necessary to prove that the most efficient care and treatment will lessen the cost by lessening the period and extent of the disability. It is plain in all fairness that if the state feels called upon to require the employer to provide for his sick or injured workman, and it feels likewise to impose a duty of furnishing professional services for a reduced compensation, then the state or the municipality should feel called upon to provide means for carrying on the work in properly organized hospitals.

AN INTERESTING ITEM IN RELATION TO MEDICAL DEFENSE IN MINNESOTA.

"The defense feature of the association since the last report, in September, 1913, has cost \$729.46. The most interesting feature was the suit brought against the association in the Penhall case. This was fully explained in the Journal of the Association. The association refused to defend this case because the claimed malpractice occurred eight or nine months before our defense feature went into operation. In the lower court in the suit against the association, for the ex-

penses of the malpractice suit, the court sustained the association. On appeal to the supreme court, this distinguished body reversed the lower court, and held the association liable for the amount, about \$500. Our attorney says there is no chance for a re-opening or re-hearing. This is more fully explained in the attorney's report of the year's work."—*The Journal Lancet*.

VERDICT IN FAVOR OF DR. J. C. LANGAN.

The case of Baker vs. Dr. J. C. Langan was tried out on its merits before a jury and a verdict rendered for the defendant. It will be remembered that this case was tried two years ago, and on motion a verdict was directed for Dr. Langan. Plaintiff then appealed and the supreme court reversed it on the ground that the plaintiff was deprived of the benefit of certain evidence that under ordinary rules of evidence could not be admitted. The case was remanded for new trial, and a verdict was rendered for the defendant.

TRIALS OF THE BRITISH MEDICAL ASSOCIATION.

We are presenting to our readers an abstract taken from *The Medical Economist* in relation to the cost to the British Medical Association in their campaign in defense of "medical ethics." It will be seen by reading this abstract that the profession in Great Britain are not free from troubles, and inference can very easily be drawn that the rights and interests of the medical profession can only be secured by constant watchfulness and close co-ordination of work and the eliminating of the little petty matters which are of no real value to the profession or the individual member thereof, but are a source of irritation which keep men apart.

Increased Dues in the British Medical Association.

"During the greater part of its career the activities of the British Medical Association have been mainly scientific. The annual meeting and the communications in the Journal dealt almost exclusively with scientific subjects. What was called "medical ethics"—the rules which should regulate the action of one physician toward another—were not neglected but, being a comparatively simple and settled subject, did not give rise to much discussion. In recent years, however,

the constantly increasing interference of the state in medical work has produced a profound transformation, and the work of the association has become more and more political. About ten years ago a medical secretary with a clerical staff was appointed to organize the profession and deal with what should be more correctly termed medico-political than medico-ethical questions. At this time the association was more than paying its way and had accumulated the substantial surplus of \$460,000. Though the new departure of the association was attended by increased membership, the expenditure still more rapidly increased. Then came the national insurance act, against which the association fought strenuously. The result was a still greater expenditure. In 1912 there was a deficit of \$80,000, due to the acute stage of the struggle with the government. The question of increasing the subscription has therefore been considered at a special meeting of the representative body of the association. The chairman of the council moved that the subscription be increased from the present one of \$6 to \$10.50. It had been said that a good many members would resign, but he thought that many were only waiting for an opportunity or excuse to resign, and the association would be better off without some of them. Against the increase one representative pointed out that if the association were to do any good it must include practically every physician and therefore should not run the risk of losing members; increased membership was far more important than increased revenue. It was also unfair to members who would resign if the subscription were increased, as it would be too late for them to send in their resignations for the forthcoming year. Another member gave the results of a postal vote taken in the Marylebone division of London. He sent out 665 cards and received 388 answers, about 57 per cent. Some of these votes were spoiled. In favor of the increased subscription there were 146 against 201—a majority of 64 against. The question was also asked, "Are you willing to remain a member of the association if your subscription be so increased?" The answers were: yes, 175; no, 150; doubtful, 20. The motion to increase the subscription was put to the meeting and carried by 131 votes to 42. A number of proposals bearing on the increased subscription was then discussed. It was proposed that in order to encourage newly qualified physicians to join the association they

should be exempted from the increase for five years. In the end a motion was passed instructing the council to draft a by-law for submission to the divisions of the association that special consideration should be given to newly registered physicians. An Irish representative moved that the increased subscription be increased only in those areas in which medical benefit under the insurance act was in force. Ireland wanted to be left out, first, because there was no medical benefit there, and secondly because there was already an Irish Medical Association, the dues of which were \$5 a year, which was essential for their protection. Another Irish member spoke to the contrary and on vote the motion was lost. A similar proposal exempting the channel islands, for the same reason, was also lost. It was also proposed to exempt naval and military medical officers who spent the greater part of their time abroad, as it had already been decided that the increased dues were not to apply to colonial members of the association. (It may be pointed out that in some colonies, for example Australia and New Zealand, the members of the association already pay increased dues of \$10.50, half of which go to the funds of the association in London and the other half for the local branch which supplies them with a local journal.) The motion to exempt military and naval medical officers was lost."

MEDICO-LEGAL DEFENSE IN NEBRASKA.

"Though hampered by the voluntary membership clause of the by-law, there never have been more than a few over four hundred members in the defense fund, demonstrating a luke-warmness of the majority of the members of the association, in spite of these drawbacks quite a number of cases of malpractice suits have been reported to the committee; a great many more of threatened malpractice suits also,—and, incredible as it may appear, not one physician in the six years has been found guilty by any court; and by the sheer force of the happy results achieved, the members of the association have become enthusiastic in their support of the committee, and this reversal of feeling was carried into the law making body of the association, and as a result, with only one dissenting vote, that body changed the voluntary phase of the by-law into an obligatory one—so that from January 1, 1915, every member

of the association will be a beneficiary of this great means for protection from blackmailers."—*Western Medical Review*.

A NEW MEDICAL ORGANIZATION IN ENGLAND.

"The discussion and bitter feeling engendered by the passage and enforcement of the British national insurance act have culminated in the organization in England of a new national body known as the National Medical Union. This organization grew out of the conference of delegates representing the so-called 'non-panel practitioners,' that is, the physicians of England who have for various reasons declined to go on the 'panel' or list of physicians available in each locality for services under the insurance act. Commenting on this new organization, the Medical Press and Circular, an independent journal of London, says that as far as can be gathered from the published reports, the reason for the organization appears to be opposition to the insurance acts themselves and opposition to the management of the British Medical Association. As was noted at the time, the special representative meeting of the British Medical Association held shortly after the passage of the insurance act took a radical position against the provisions of the act and called on the individual members of the association to pledge themselves not to take part in the enforcement of the act. When the test came up, however, and the individual physicians were called on to decide whether they would place their names on the list of physicians available under the law, or enter a protest by refusing to take part in enforcing its provisions, a large majority of the members of the association enrolled themselves as eligible for local services. Those physicians who adhered to their pledge have consequently been dissatisfied with the present situation. The peculiar condition which at present exists is that the new organization, which is practically called into existence through dissatisfaction with the British Medical Association, is made up largely of members of the association who have conformed to the policy of the association itself.

TWILIGHT SLEEP.

Dr. Joseph B. De Lee in the November number of "Modern Hospital;" presents some views on

the much talked of Twilight Sleep, based on observations at the Freiburg Clinic. Dr. De Lee is not favorably impressed by what he saw; he admits that when the method worked well it was ideal. In two cases noted in peasant women "both had strong regular pains and in my judgment from appearances and the results of examinations recorded by the interns, both should have had spontaneous deliveries in ten hours. In both however the pains weakened decidedly and labor lasted until the next day. Rotation was found to be arrested, when finally the forceps had to be applied—one because of threatened danger to the child, the other because of protracted labor. Both deliveries were laborious and attended by extensive laceration." Several other cases, to say the least, were unpleasant in their results. Under this form of "anesthesia" lacerations were much more frequent and severe and operative procedures much more severe and dangerous. The following fairly represents Dr. De Lee's views on this subject:

"The proper conduct of the treatment requires a large force of physicians and nurses. The fetal heart tones must be noted constantly, and the patient may not be left alone, especially if delirious. In one of the cases the heart acted poorly for a while, but not enough to stop the treatment."

"The method is one that may not be practiced in the home. Its general adoption throughout the country would result in an appalling infant mortality and an enormous maternal mortality and morbidity. In a properly equipped maternity and in the hands of expert obstetricians, these drugs may be administered with a certain degree of safety, but the cases must be selected with exceedingly great care, and a man capable of his task must be within instant reach all the time. Even then the mother will often have to pay the penalty of extensive injury for her relief from pain."

A MILLION DOLLARS FOR THE UNIVERSITY OF PENNSYLVANIA.

The final settlement of the estate of Dr. Lewis A. Duhring, for many years professor of dermatology in the University of Pennsylvania, shows that the university will receive approximately a million dollars, this sum being willed to the university hospital, to the general library, the department of dermatology, and the department of archaeology. The College of Physicians of Philadelphia is also one of the residuary legatees and will receive probably more than \$100,000.

AMERICAN COLLEGE OF SURGEONS.

More than two thousand delegates from all parts of the United States and Canada attended the third annual meeting of the American College of Surgeons, which was opened in Washington, D. C., on Monday, November 16, under the presidency of Dr. J. M. T. Finney, of Baltimore. Six hundred new members were admitted to the college, among them being Surgeon General W. C. Gorgas, United States Army; Dr. Dudley P. Allen, of Cleveland; Dr. Lewis Pilcher, of Brooklyn, New York; Dr. J. W. White, of Philadelphia, and Sir Thomas Roddick, of Montreal. Clinics were held in the principal hospitals of Baltimore, Philadelphia, and New York.

PETER BENT BRIGHAM HOSPITAL.

Founder's day at the Peter Bent Brigham Hospital was celebrated with appropriate exercises on Thursday afternoon, November 12. The occasion was essentially the official opening or dedication of the hospital. Over five hundred persons were present. The principal addresses were given by Dr. William H. Welch of Baltimore, Dr. Frank Billings of Chicago and Dr. J. Collins Warren of Boston. Mr. John P. Reynolds, in behalf of the building committee, of which he is a chairman, presented the report of this committee and delivered a symbolic silver key to Mr. Alexander Cochrane, president of the corporation. The treasurer, in his report, stated that the trust fund of the hospital amounts to \$5,000,000, from the income of which the running expenses will be paid. Since the unofficial opening of the hospital on January 27, 1913, there has been a constant average of 173 patients in the institution. In conclusion, Dr. Harvey Cushing responded for the surgical and medical staff. After the exercises luncheon was served and the guests were invited to inspect the various departments of the hospital. These formal exercises on the anniversary day of the founder of the hospital, mark the complete establishment of the institution as one of the associated hospitals of the Harvard Medical School and one of the leading charitable medical institutions of Greater Boston.—The Boston Medical and Surgical Journal.

PROOF RENDERING ROENTGENOGRAM ADMISSIBLE IN EVIDENCE.

(Prescott & Northwestern Railroad Co. vs. Franks (Ark.), 163 S. W. R. 180.)

The supreme court of Arkansas says that it is now a well recognized fact that by the aid of proper apparatus a picture of the bones of the human body may be obtained that will more or less define the skeleton and show any injuries that may have resulted to the bones, or any foreign substance that may be lodged in the body. Therefore roentgenograms are admissible in evidence when proper proof

of their accuracy and correctness is produced. In this case the plaintiff (Franks) had suffered a dislocation and fracture of his hip. His attending physician admitted that he had never had any experience in taking roentgenograms but testified that he was present when the photograph in question was taken; that a glass plate was placed under the injured member of the plaintiff, and the Roentgen ray placed over him, and by reflection of the light from the roentgenoscope the negative was made; that he saw it before it was delivered to the photographer to be developed; that the roentgenogram exhibited to the jury was the same as the impression on the glass which he saw just after it was taken. The witness, although he was not a graduate of any medical school, was a practicing physician and surgeon, and had been for fifteen years. His testimony, detailed above, showed that he was present when the picture was taken, and was familiar with the anatomy of the human body. Therefore the court thinks there was sufficient proof of the accuracy and correctness of the photograph, and that there was no error in admitting it in evidence.

We are publishing the decision of the Arkansas Supreme Court in relation to the admissibility of X-ray plates as evidence in cases of fracture. No physician can read this opinion without feeling that he is subjected to the greatest danger on account of submission of X-ray plates that do not properly represent the facts. We are all more or less familiar with the fact that if a radiogram is not taken at a proper angle that it is liable to produce a distortion that will give the impression to the jury that a great deformity exists, and that it would be the duty of the jury in the presence of such deformity to grant large verdict in favor of plaintiff. More care should be exercised by the medical profession in impressing lawyers and judges with the fact that X-ray pictures may be very misleading and that no one should assume to pass upon the correctness of these radiograms who has not had special training in this line of work.—EDITOR.

BOOK REVIEWS.

LOCAL AND REGIONAL ANESTHESIA, INCLUDING ANALGESIA,

By Dr. Carroll W. Allen, M. D. of Tulane University, New Orleans, With an Introduction by Rudolph Matas, M. D. of Tulane University. Octavo of 625 Pages With 255 Illustrations. W. B. Saunders Company, Philadelphia and London, 1914. Cloth \$6 Net; Half Morocco \$7.50 Net.

After a brief historical discussion comes a physiological discussion of nerves and their sensations, especially pain, osmosis and diffusion occupy a

chapter. A general consideration of anesthetic agents appears in Chapter Five. An interesting feature is the tests which may assure the real value of a local anesthetic agent. Various agents have at one time or another been in favor, but the test of experience may show that they were lacking in efficiency or possessed some objectionable properties which impaired their popularity. Cocain, a valuable local anesthetic was found unsafe unless under well controlled conditions, was not safe for the general surgeon, but was of great value to the specialist. In this chapter is recorded extensive researches to determine the action of cocain upon the vital manifestations of various cells according to the concentration of the solution. We cannot more than refer to these experiments and recommend them to the consideration of those who employ local anesthetic agents. Other agents of this group receive the same consideration.

Novocain at the present at least is the most widely used and most satisfactory local anesthetic, non-irritant and of low toxicity. The author has furnished the information as to its preparation for use. Surely one should feel the importance of going over this part of the work when preparing himself for this form of anesthesia.

A very important section of this book relates to the "Comparative Action of Anesthetic Agents" both from an experimental and practical point of view.

Considerable space is given to the anesthetic properties of quinine salts. It appears that Dr. Henry Thibault of Scott, Arkansas was the first to discover the anesthetic properties of this drug. Dr. Allen made numerous experiments and did several operations under the local influence of the quinine salt. Dr. Hartzler has contributed much in the same direction and the conclusion reached is that the non-toxicity of this agent coupled with the extraordinary duration of its anesthetic influence places in the hands of the surgeons a drug of extraordinary value in a certain class of cases. The author, however, recommends caution in view of some observations of Dr. F. W. Parham of New Orleans on the incriminating relation of quinine salts and tetanus.

A chapter is devoted to the toxicology of local anesthetic agents which should not be overlooked. A chapter is given to Adrenalin, an agent of great value and one which has had much to do with developing a successful local anesthetic practice through its influence in constricting the blood vessels both local and constitutional. The value of this chapter can only be appreciated by a careful study. Chapter Eight, Principles of Technic, is the pointing out of the way to use local anesthetics which is of course absolutely essential to successful work. The use of morphine and scopolamin and combined methods of anesthesia is an extremely delicate subject and involves so many questions of danger that a most thorough study is necessary, especially when we consider that "Wood in 1905 was able to collect 2,000 cases with 9 deaths or 1 to 221 cases—a frightful mortality, and in 69 cases a general anesthetic

was necessary to complete the operation." For our part, we never have had the courage to use it. In our opinion a most skillful combination must be effected to warrant its use. Some attention is given to Crile's Anoci-association and the author regards the method with favor. A chapter (XII) is given to Intra-Arterial Anesthesia and to General Anesthesia Through the Intravenous Injections of Local Anesthetics.

The remainder of the book, some 400 or 500 pages, is devoted to regional anesthesia by local or combined methods.

The study of this book and one by Prof. Brun impresses us with the fact that before the surgeon enters upon the practice of local anesthetic methods a most exhaustive examination of such books as I have mentioned or practice in a well conducted clinic is absolutely essential.

Inasmuch as local anesthesia is coming to be so much in favor it seems to be an opportune time for surgeons to avail themselves of the detailed and painstaking studies presented in this book.

ANOCI-ASSOCIATION.

By George W. Crile, M. D., Professor of Surgery, School of Medicine, Western Reserve University, Visiting Surgeon to The Lakeside Hospital, Cleveland, and William E. Lower, M. D., Associate Professor of Genito-Urinary Surgery, School of Medicine, Western Reserve University, Associate Surgeon to The Lakeside Hospital, Cleveland. Original Illustrations, W. B. Saunders Company, 1914, Philadelphia and London. Price, Cloth \$3 Net.

Dr. Crile has grouped in a book of 260 pages much of what he has said at various times and places on anoci-association in its bearings on surgical shock, surgery of the respiratory system, problems relating to surgical operations, the blood pressure in surgery and hemorrhage, and transfusions. This work in a general way is well known to the profession, and the bringing it together in a convenient volume will be gratefully received. How well the theories so thoroughly and ingeniously worked out by Dr. Crile will stand the test of time, cannot now be determined, but that great good will come out of them can be most confidently predicted. The enterprise and industry with which experimental evidence has been brought to bear on these contentions is truly marvelous. The great interest which has been felt in anoci-association almost compels the more enterprising members of the profession to read and study this book with great care. In no other way can the surgeon justly or with credit to himself apply this form of anesthesia for surgical work.

The book is divided into two parts. Part one: The Kinetic Theory of Shock and Anoci-association, in four chapters, by Dr. Geo. W. Crile; part two: The Treatment of Shock and Its Prevention Through Anoci-association, by Dr. Crile and Dr. Lower.

There are fourteen chapters of illustrative operative work in this division of the book with well prepared illustrations and text to plainly indicate the author's method, which should be carefully followed until the operator has gained sufficient knowledge and experience to deviate from the master's procedures. This cannot be better illustrated than by quoting Dr. Crile's closing observation in the summary: "If performed perfunctorily, as a dull ritual, the technique of anoci-association will fail; it can accomplish its purpose only when each detail, however minute, is considered from the viewpoint of the individual patient."

The book closes with an "Appendix" which sets forth the technique of administering nitrous-oxide-oxygen anesthesia by Agatha Hodgins, Chief Anesthetist, Lakeside Hospital.

ABDOMINAL OPERATIONS.

By Sir Berkeley Moynihan, M. S. (London), F. R. C. S., Leeds, England. Third Edition Entirely Reset and Enlarged. Two Octavo Volumes, 980 Pages with 371 Illustrations, 5 in Colors. W. B. Saunders Company 1914, Cloth \$10 Net; Half Morocco \$13 Net.

The author states in the preface to this third edition that he has kept strictly in view the original purpose, and describes in detail only those operations the methods of which are practiced by himself. Therefore we may expect to find only the methods Sir Berkeley employs. It does not mean that he is the sole originator of all the procedures used, but the methods originated by himself and others that have stood the test of experience are the ones he employs and which he elaborates in his work. Sir Berkeley is a man of great force and as is well known as a man having great faith in his own views and great ability in expressing them. The reader may therefore expect to find a clear, well defined and concise statement of facts worth keeping in mind through the two very attractive volumes. The author does not waste much time on laboratory anatomical or physiological consideration, but proceeds almost at once to practical matters. A short chapter is given to the bacteriology of the stomach and intestines; another chapter to the preparation for abdominal operations: preparation of the patient, sterilization, instruments, ligatures, etc., the environment, the operation, drainage, adhesions, after treatment, etc., another chapter to complications and sequels. This chapter is written with great force and clearness and should be read with the greatest care. There is no doubt of an increased mortality in abdominal operations from a failure on the part of the operator to observe these precautions. In our opinion where the surgeon has but small control over his patient and the environment, the mortality in abdominal operations is excessively high from complications that ought to have been prevented and would have been prevented but for the incompetence and indifference of the hospital people.

In regard to acute dilatation of the stomach Moynihan quotes extensively from Box and Wallace and from several other writers without an agreement as to cause. It is suggested that primarily there is a paralysis of the walls of the stomach followed by distention with fluid and a kinking or rotation of the pylorus with mechanical interference with the escape of stomach contents into the duodenum. Dr. L. A. Conner in 1907 gave the mortality as 72 per cent. Moynihan prefers the mechanical traction upon the superior mesenteric vessels hypothesis. In relation to the etiology of thrombophlebitis "it is still as obscure as it was twenty years ago."

Commencing with Chapter Four will be found the operative work.

Referring to abdominal incisions Moynihan says that "It is a cardinal rule that there shall be no division of muscular fibres unless it is absolutely necessary for a sufficient exposure of the operation field; muscular fibres are always to be separated, never to be cut." The highest order of practical surgical sense is found throughout the entire work. The work is printed on heavy paper and the type and illustrations are of the highest order of excellence.

This work written by a master in abdominal surgery, brings to the reader the best that is known in this field. We feel that no one interested in abdominal work can well do without consulting these volumes.

SIEGMUND FREUD, "ON DREAMS."

Translated by M. D. Eder. Rebman Co., New York, 1914. Price \$1 Net.

This is not Freud's famous "Die Traumdeutung" (2d edition translated by Dr. Brill, Macmillan Co.), and it conveys but an inadequate conception of Freud's theories. Those who are interested in following the great Freudian movement will find "Psychopathology in Daily Life," "The Interpretation of Dreams," and "Papers on Hysteria" (published by Journal of Nervous and Mental Disease), among the best original sources. Since the movement has assumed such large proportions, many will be interested in following the very excellent quarterly "The Journal of Psychoanalysis," which is its most representative organ, (published by Journal of Nervous and Mental Disease Publishing Co., 64 West 56th St., New York).

DIETETICS: OR FOOD IN HEALTH AND DISEASE.

By William Tibbles, LL. D., M. D., L. R. C. P., M. R. C. S., L. S. A., Medical Officer of Health, Fellow of The Royal Institute of Public Health, etc. Octavo, 627 Pages. Cloth, \$4 Net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

The subject presented in this volume is one concerning which the average general practitioner has only a general knowledge, a condition which is not creditable and often works to the disadvantage of

both physician and patient. The study of this work will many times repay the doctor in giving him better results in treatment. The manner in which the subject of food-values, both as to potential energy and as to digestibility is covered, makes for a well rounded presentation, and for a work which holds the attention of the reader. The newer subjects of the anzymes, lipoids, salts, and vitamins, are discussed and their influence shown.

The Rockefeller Sanitary Commission For The Eradication of Hookworm Disease. Second and Third Annual Report. Report of Administrative Secretary and the Report on Hookworm Disease in Foreign Countries. Office of The Commission, Washington, D. C., 1810-11-12.

UNITED STATES PUBLIC HEALTH SERVICE.

Sanitary Survey of Indiana Industries Employing Women Labor. By M. J. White, Surgeon United States Public Health Service. Supplement No. 17-July 17, 1914. Pages 44. Government Printing Office, Washington, D. C.

Since publication of New and Non-official Remedies, 1914 and of the supplement to New and Non-official Remedies, 1914 (July 1, 1914) the following articles have been accepted for inclusion with "N. N. R.":

Abbott Alkaloidal Co.:

Strepto-Bacterin (Human): packages of 6 ampoules, each containing 100 million killed bacteria.

Slee's Normal Horse Serum: vials containing 100 Cc.

H. M. Alexander and Co.:

Typhoid Vaccine.

Antiseptic Supply Co.:

Stypstick Applicators, Alum 75 per cent.

Arlington Chemical Co.:

Arlco Urease.

The Bayer Company, Inc.:

Cymarin, Tablets Cymarin, Ampoules Cymarin Solution.

Fougera and Co.:

Electrargol for Injection, 10 Cc. Ampoules.

Greeley Laboratories, Inc.:

Acne Vaccine: packages of 6 syringes each containing 12 million bacteria.

Colon Vaccine: packages of 6 syringes each containing 1,000 million bacteria.

Pyocyaneus Vaccine: packages of 6 syringes each containing 1,000 million bacteria.

Gonococcus Vaccine: packages of 6 syringes each containing 500 million bacteria.

Pneumococcus Vaccine: packages of 6 syringes each containing 500 million bacteria.

Staphylococcus Albus Vaccine: packages of 6 syringes each containing 1,000 million bacteria.

Staphylococcus Aureus Vaccine: packages of 6 syringes each containing 1,000 million bacteria.

Streptococcus Vaccine: packages of 6 syringes each containing 500 million bacteria.

Typhoid Bacillus Vaccine: packages of 6 syringes containing 1,000 million bacteria:

packages of 6 syringes containing respectively 100, 200, 400, 600, 800 and 1,000 million bacteria.

Hynson, Westcott and Co.:

Urease-Dunning.

Maltine Co.:

Maltine Malt Soup Extract.

Memorial Institute:

Diphtheria Antitoxin, 10,000 units.

H. K. Mulford Co.:

Friable Tablets of Emetine Hydrochloride

Hypodermic Tablets of Emetine Hydrochloride.

Antidysenteric Serum, in vials containing 50 Cc.

Antipneumococcic Serum, Polyvalent, syringes containing 20 Cc. and vials containing 50 Cc.

Antistreptococci Serum, Polyvalent, vials containing 50 Cc.

Antistreptococcic Serum, Scarlatinal, Polyvalent, vials containing 50 Cc.

Pyocyano Bacterin: packages of 4 syringes containing 50, 100, 200 and 400 million killed bacteria.

Typho-Serobacterin Mulford, Immunizing, syringes containing 1,000, 2,000 and 2,000 million killed sensitized typhoid bacilli.

Pasteur Institute of St. Louis:

Antirabic Vaccine.

Schieffelin and Co.:

Acne Vaccine: packages of 4 syringes containing respectively 5, 10, 20 and 40 million B. acne.

Antimeningococcus Serum: 30 Cc. cylinder; 20 Cc. vial.

Colon Vaccine: 2 vial packages containing 50, 100, 200 and 400 million killed bacteria.

Gonococcus Vaccine: 5 syringes containing respectively 50, 100, 200 400 and 1,200 million killed bacteria.

Scarlet Fever Treatment: packages of 4 vials containing 50, 100, 200 and 400 million killed bacteria.

Continued in February issue

THE SIXTH ALUMNI CLINIC OF THE COLLEGE OF MEDICINE.

State University of Iowa.

The clinic held December 8 and 9 given by the College of Medicine of the University was admitted by all present to have been of exceptional interest, and the best they had ever attended.

Beginning practically on the evening of the 7th inst., with dinners served in honor of their visiting alumni by the chapters of the three fraternities of the college the interest grew rapidly. The registration be-

gan to swell upon the morning of the 8th inst., the first day of the clinic. It was found toward evening that over one hundred and fifty had reported, despite the exceptionally inclement weather.

The clinic opened promptly at eight o'clock with a full and most interesting clinic in his subject by the Dean of the College Dr. L. W. Dean, extending to 9:30. At this hour President Thos. H. McBride was introduced very happily by Dr. J. R. Guthrie, dean emeritus of the College. The president being so well and favorably known by most of those present, received an ovation lasting several minutes. His address of welcome to those present in behalf of the College and the University, was such as he always, and he alone can make. It was strong and scientific in thought, beautiful in its diction, and most inspirational. It gave the clinic a great uplift toward the successful termination which all felt was so surely to await it.

At 10 o'clock Dr. Reuben Peterson of the College of Medicine of the University of Michigan, presented a helpful and varied clinic in gynecology, extending to one o'clock—at which hour adjournment was announced until two p. m. From two o'clock until four the laboratories of the College were given right of way, and matters of interest were presented in those relating to anatomy, physiology, pharmacology and pathology, each offering subjects specially related to its field of investigation. As many of the older graduates, indeed, all those who had graduated prior to 1900, the subjects were new and were admitted to be most helpful. The students of the present day were recipients of great congratulation. The advances in medicine during the past fifteen years were pronounced little short of marvelous.

At four o'clock—Dr. C. P. Howard conducted a very interesting clinic in internal medicine, being able to present groups of typical cases of various classes. At five-thirty the days clinical work closed. However, a "smoker" was announced awaiting its guests during the hours of the evening of the first day. It consisted of a three-part program. During the early part of the evening an orchestra, consisting of eight pieces and composed mostly of students of the freshman class of the college, impressed upon the gathering audience the versatility of the students. Part first of the program consisted of exhibitions in magic by a premedical student, musical numbers, such as solos, duets, quartettes, a "musical offertory" by members of the senior class, written by one of its members and dedicated to the visiting alumni, and orchestral numbers. All, with but a single exception, was presented by members of the college as was all of part two.

Part two opened with a curtain-riser illustrative of the way, no doubt, Don Quixote must have charged the famous windmill. Such sparring was clearly medieval and could end in but one way, the discomfort and death of the Knightly contestant—who was pronounced "knocked out" at the end of the second round. This feat was followed in turn by two of similar nature, made up, however, of champion

light and heavy weights from incipient gladiators selected at random from University athletes.

A first class westling match between two experts in this class of sport, with a fifteen minute round allowed them, closed mid great enthusiasm part two.

Part three of the program was unique in every way. It was entirely extemporaneous and confined exclusively to the alumni. It consisted of about a dozen of the most enthusiastic and thrilling booster speeches that one could hope to hear in many years. The distinguished visiting clinicians from Ann Arbor and Chicago, each promised in response to calls for a word, that he would get busy when he reached home in arranging, for just such a "smoker" and just such boosting, if such boosters could be duplicated anywhere on earth. The manifest desire among the undergraduates of the College who had been invited to enjoy the feasts of knowledge and fun, was to formulate a new yell something like, "What's the matter with the Alumni," our own by blood and ours by adoption as well!" To which the ringing response must be, "They are all right." The "smoker" however, like all good things had to have an end—which occurred a few minutes before the birth of the next day.

Wednesday morning opened with a large increase in attendance, the registration marking over two hundred. A brief clinic in two special lines of work by the dean, and a simultaneous one appertaining to his subject—Neurology by Dr. Clarence Van Epps marked the opening hour 8 to 9 a. m. These were followed by the presentation of several typical cases in dermatology by Dr. Kessler. Following the latter, Dr. Dean Lewis of Rush Medical College, Chicago presented a very complete and most helpful clinic in general surgery, from 10 a. m. until 1 p. m. At 2:30 p. m. Dr. Grant concluded the regular scheduled clinics with one of much interest in Pediatrics. It should also be mentioned that so abundant and rare a supply of material had been gathered for the clinic in all its departments, that overflow clinics were held by Dr's. Guthrie, Whiteis, Rowan and Dean, in their respective departments, which were fully attended and greatly appreciated.

Thereafter the alumni were given full possession of the University being assured it was theirs for the day. Visits to all points of interest made by its old and new friends concluded the clinic, interesting in every way because of the richness and helpfulness of the material furnished, the mingling of undergraduate students with recent and older alumni, the "smoker" and the manifest general good cheer. There was but one fly in the ointment, that more should have found it impossible to be present owing to the inclement weather during both days. The faculty of the college assure all who were present, and all who intended to be as well that they feel more deeply indebted to the royal good fellows who graced all these occasions by their presence than they are able to express.

C. S. Chase, M. D.

POISONOUS FLY DESTROYERS.

The December issue of the Journal of the Michigan State Medical Society calls attention editorially to the danger of using poisonous fly destroyers.

From July 1 to October 15, 1914, forty-five cases of poisoning of young children were reported in the press of a few states and it is pointed out that the symptoms of arsenical poisoning and cholera infantum being very similar there are possibly many more cases of the kind. It might be well in view of this danger for physicians to eliminate the possibility of arsenical poisoning before diagnosing a case as cholera infantum. A few years ago there was considerable agitation against the use of phosphorus matches, partly because of some children being poisoned by eating or sucking the heads of the matches. There are doubtless many more cases of poisoning from the poisonous fly destroyers. Phosphorus matches have been abolished, so should be poisonous fly destroyers.

It seems this danger has already been recognized by the authorities in far away South Africa and the sale has been forbidden, except by licensed chemists, of certain arsenical fly destroyers, more particularly the tin boxes which have a wick or wicks through which the poisoned water is drawn. The fact that sugar is added to draw the flies makes these boxes especially dangerous to young children; furthermore all these poisonous fly destroyers are usually placed on the window sill and children as well as flies are attracted to the windows and the poisons are thus within their reach.

Both the blotting paper impregnated with arsenic, (which is put in an open saucer with water and sugar) or the tin boxes with wicks to draw the poisoned water to the surface are extensively used, and there is probably no poison so commonly and unnecessarily used where it is perforce within the reach of young children as these various arsenical fly destroyers. In country homes where it often takes some hours to get a physician, and even in our cities among the foreign born, where the parents are as is well known, slow to call the services of a physician for childish ailments, the danger is especially great. There are as effective and more sanitary ways of killing flies. **Poisonous fly destroyers are an unnecessary evil and should be relegated to the past like the phosphorus match.**

SOCIETY PROCEEDINGS.

The Appanoose County Medical Society met in special session at Centerville December 15, the occasion being a clinic held by Dr. C. L. Mix, of Chicago.

The Society sent out invitations to the doctors in the surrounding counties, but, owing to the bad weather, there were only about fifty doctors present.

During the afternoon, Dr. Mix examined and discussed his findings in seven cases presented to him at the clinic, making a very profitable afternoon for those present.

At seven o'clock a banquet was held at the Methodist church, Dr. E. F. Bamford acting as toastmaster. Dr. Eschbach, President of the State Medical Society, of Albia responded to the toast, "Our State Medical Society." Dr. Downing, of Moulton, spoke on "Our County Society," and Dr. Mix, of Chicago, gave a very excellent discourse on "Specialization in Medicine."

At the annual meeting of the Cass County Medical Society held at Atlantic, December 17, besides a very interesting program, officers for 1915 were elected as follows: President, Dr. U. S. Mullins, of Atlantic; vice-president, Dr. A. J. Zook, of Adair; secretary and treasurer, Dr. M. F. Stults, of Wiota.

The Chickasaw County Medical Society on November 17, 1914, elected the following officers for 1915: President, Dr. J. L. Zoller, of Fredericksburg; vice-president, Dr. O. M. Landon, of New Hampton; secretary and treasurer, Dr. Paul E. Gardner; delegate to State Society, Dr. N. Shilling; alternate, E. N. Johnston, of Fredericksburg.

The Delaware County Medical Society in their meeting at Manchester, December 4, 1914, had a large attendance. Dr. L. W. Littig, of Davenport, gave a very able and instructive talk on "Painful Back." Officers chosen for 1915 were President, J. J. Lindsay, Manchester; vice-president, E. J. Wintenberg, Delhi; secretary and treasurer, T. J. Burns, Manchester; delegate to State Society, H. A. Dittmer, Manchester; alternate delegate, E. G. Dittmer, Manchester. In the evening at the Methodist church, Dr. Littig gave a public address on "Preventive Medicine."

Sixty members of the Des Moines County Medical Society met at Hotel Burlington, Burlington, December 9, 1914. The program was as follows:

Pleurisy—Dr. Carl Stutsman.

Purulent Pleurisy—Dr. C. H. Magee.

Can We Go Too Far?—Dr. J. H. Chittum.

Nasal Obstruction—Dr. E. A. Hunt.

Diagnosis of the Presentation and Position of the Foetus—Dr. G. A. Chilgren.

Acute Obstruction of the Bowel—Dr. A. W. Sherman.

The following officers were elected for the ensuing year: President, A. H. Vorwerk, Burlington; vice-president, J. P. Mathias, Mediapolis; secretary and treasurer, E. A. Hunt, Burlington; censor, G. A. Chilgren, Burlington.

The Floyd County Medical Society met at Charles City after a very interesting program on December 2, 1914, elected the following officers for 1915: Dr. Niemack, Charles City, president; Dr. McCray, Charles City, vice-president; Dr. Lorenz, Charles City, treasurer; Dr. Sleeter, Rockford, censor for three year; Dr. O'Keefe, Marble Rock, delegate to State Medical Society; Dr. Miner, Charles City, alternate delegate.

The Franklin County Medical Society at its meeting held at Sidney, December 16, 1914, elected the following officers for 1915: President, T. C. Harris, of Tabor; vice-president, J. M. Lovelady, of Sidney; secretary and treasurer, A. E. Wanamaker, of Hamburg; delegate to State Society, Ralph Lovelady, of Sidney, and alternate, Harold Cole, of Thurman.

Dr. E. A. Merritt, of Council Bluffs, read a paper on "The Roentgen Ray as a Diagnostic Aid" with special reference to lesions of the stomach and colon.

The Green County Medical Society held their final meeting for the year 1914 December 10 at Hotel Head, Jefferson. Dr. Knowles read a very interesting paper on Puerperal Eclampsia. The officers elected for 1915 were: President, Dr. G. W. Franklin; vice-president, Dr. O. C. Lohr; secretary and treasurer, Dr. B. C. Hamilton, Jr.; delegate, Dr. C. D. Ensfield; alternate, Dr. J. R. Black.

Johnson County Medical Society reports the following officers for 1915: President, Dr. Charles J. Rowan; vice-president, Dr. L. W. Harding; secretary-treasurer, Dr. A. L. Grover; delegate, Dr. L. W. Dean.

On December 18, 1914, the Hardin County Medical Society had for its program:

Infections of the Hand—Prof. Chas. J. Rowan, Iowa City.

How to Take Blood Pressure—G. E. Crawford, M. D., Cedar Rapids.

European Experiences—J. H. Schrup, M. D., DuBuque.

Renal Tuberculosis—C. M. Wray, M. D., Iowa Falls.

The following officers for 1915 were elected: President, Dr. C. M. Wray, Iowa Falls; vice-president, Dr. E. C. Kauffman, Union; secretary, Dr. W. E. Marsh, Eldora; treasurer, Dr. J. W. Thornton, Iowa Falls.

The Linn County Medical Society met at Montrose Hotel, Cedar Rapids, November 24, 1914, with the following program:

Acute Affections of the Bones and Joints and their Management from the Practitioners' Standpoint—Dr. John B. Murphy of Chicago.

Discussion by Dr. H. E. Pfeiffer and Dr. C. S. Krause of Cedar Rapids and Dr. Chas. Rowen of Iowa City.

The meeting was preceded by an informal dinner at the home of Dr. Fred W. Bailey and followed by a smoker at the home of Dr. B. L. Sheldon.

The Mahaska County Medical Society at its annual meeting December 9 at Oskaloosa elected the following officers for the ensuing year: President, Dr. A. C. Spurgin; vice-president, Dr. J. J. Sybenga; secretary and treasurer, Dr. A. L. Washburn; delegate to State Medical Society, Dr. J. G. Roberts.

The Marion County Medical Society held its thirty-first annual meeting at Knoxville, December 17, 1914. Dr. Strawn read a very interesting paper on The Medical Treatment of Peptic Ulcer, and its Surgical Indications. Dr. Carl Mulky read an instructive paper on Heart Tonics, and Dr. H. V. Scarborough gave an interesting talk on the Oakdale Sanitarium.

The following officers for 1915 were elected: President, Dr. Carl Aschenbrenner; vice-president, Dr. Carl Mulky; secretary-treasurer, Dr. C. W. Cornell; alternate delegate, Dr. J. V. Brann.

The Mills County Medical Society held its annual meeting at Glenwood, December 17. Dr. A. E. Merritt of Council Bluffs gave an illustrative lecture on Newer Methods in the Diagnosis of Diseases of the Alimentary Tract.

The following officers were elected for 1915: President, Dr. I. U. Parsons, Malvern; vice-president, Dr. Edgar Christy, Hastings; secretary and treasurer, Dr. W. A. Rush, Malvern; delegate, Dr. Roy Moon, Glenwood.

At a joint meeting of the Osceola-Lyons County Medical Societies held at Rock Rapids, December 16, 1914, the following program was given:

Personality and Its Relation to Mental Disorders—Dr. T. J. Long, Cherokee.

Direct Laryngoscopy, with Demonstration of Instruments—Dr. J. G. Parsons, Sioux Falls.

Case for Diagnosis, (Bring your stethoscopes)—Dr. G. H. Boetel.

Odds and Ends in a Country Practice—Dr. F. E. Chalmers.

The Problem of County Medical Aid—Dr. L. L. Corcoran.

Demonstration of Nitrous Oxide-Oxygen Anesthesia—Dr. J. J. Maloney.

The Monroe County Medical Society reports the following officers for 1915: President, Dr. G. A. Jenkins, Albion; vice-president, Dr. T. A. Moran, Melrose; secretary-treasurer, Dr. S. T. Gray, Albion; delegate to State Society, Dr. T. A. Moran, Melrose; alternate delegate, Dr. T. R. Jackson, Albion.

The annual meeting of the O'Brien County Medical Society was held at the office of Dr. Brackney of Sheldon, December 8, 1914 with Drs. Hand, Sherbon, Kas, Avery, Oldag, Brock, Myers, Cram and Brackney, present. At the business session in the morning, the following officers were elected for 1915: President, Dr. H. J. Brackney, Sheldon; vice-president, Dr. T. D. Kas, Sutherland; secretary-treasurer, J. B. Sherbon, Hartley. After dinner at Arlington Hotel, this program was given:

Tuberculosis—Dr. J. W. Sherman, Sioux City.

Acute Nephritis—Dr. T. D. Kas, Sutherland.

Advancement in Medicine and Surgery—Dr. W. R. Brock.

The Polk County Medical Society had for its guest at the annual meeting December 22, 1914, Dr.

Charles Spencer Williamson, Dean of Medicine, Medical Department, University of Illinois.

Dr. Williamson spent the morning visiting the various hospitals, and in the afternoon, he gave a heart clinic at the new Lutheran Hospital where he emphasized the unreliability of many of the digitalis preparations by the frog unit method. He also recommended that in severe cases some specially prepared product of this drug be given intravenously because in bad cases the stomach has largely lost its power of absorption and because even where this power is not lost, it takes too long to secure the action of this drug—twenty-four hours, at least—whereas, if given intravenously, it acts in a few minutes if the heart muscle has not lost its power to respond.

Dr. Williamson also emphasized the fact that the best evidence of the action of digitalis is its diuretic action. If diuresis does not occur, either the heart muscle has lost its power of response or the drug is inert.

After the annual banquet which was attended by about one hundred and fifty guests and members, Dr. Williamson delivered an address on "Some Misconceptions in Diseases of the Heart with Suggestions as to their Correction." Dr. Williamson related his experience in securing a good "X" ray of the heart and illustrated this success with some extremely fine radiographs of the heart. He described his experiments with the condition known as acute dilation of the heart and showed by his experiments that the normal heart does not dilate upon exercise and that only a small per cent of abnormal hearts show any enlargement under the "X" ray after violent exercise carried almost to the point of syncope or carried entirely there, the picture being taken as soon as the patient could stand.

Dr. Williamson concluded that; "The normal heart reacts to any strain within its power by contraction. An ordinary strain can not dilate the heart."

Following Dr. Williamson's address a non-medical program was given. Mr. I. M. Treynor, of Des Moines, brother of Dr. V. L. Treynor, of Council Bluffs, former President of the State Medical Society gave a number of vocal selections that were heartily applauded and when he sang, "It's a Long Way to Tipperary," the physicians joined heartily. Other numbers were given by Dr. H. S. Hutchins, Jack Brady (in a second edition of Harry Lauder), Bowman brothers and Bonita of the Empress, and Dr. Chas. Ryan.

After the non-medical program, the retiring president, Dr. Granville N. Ryan, delivered his annual address in which he emphasized the growing public enlightenment as to the qualifications of a physician showing that as the public becomes more enlightened, the quack, the abortionist and the patent medicine vendors are less and less patronized.

The following officers were elected for 1915:

President, Dr. F. E. V. Shore, Des Moines; vice-president, Dr. Channing Smith, Granger; secretary, Dr. Thos. F. Duhigg, Des Moines; treasurer, Dr. E. B. Mountain, Des Moines; delegates to State Medi-

cal Society, Dr. W. S. Conkling, Dr. R. A. Weston and Dr. Wm. E. Sanders (hold over).

Poweshiek County Medical Society reports officers for 1915 as follows: President, Dr. O. W. King, of Montezuma; vice-president, Dr. E. F. Talbott, of Grinnell; secretary and treasurer, Dr. C. E. Harris of Grinnell.

The annual meeting of the Story County Medical Society was held at Ames, December 15, 1914 with the following program:

"Embolus"—Dr. F. S. Smith, Nevada.

"Treatment of Infectious Diseases"—Dr. H. K. Haerum, Story City.

"Investigation of the Recent Typhoid Situation at Ames"—Prof. Max Lavine, Ames.

The officers elected for the ensuing year are as follows: President, Dr. H. K. Haerum, Story City; vice-president, Dr. B. G. Dyer, of Ames; secretary and treasurer, Dr. F. S. Smith, Nevada; delegate, Dr. B. G. Dyer, Ames; alternate, Dr. D. M. Ghrist, Ames.

The Union County Medical Society reports officers for 1915 as follows: President, Dr. J. W. Fry; vice-president, Dr. W. K. Keith, secretary and treasurer, Dr. T. V. Golden; delegate to State Society, Dr. J. W. Reynolds; alternate, Dr. W. K. Keith.

The Webster County Medical Society report election of officers for 1915 as follows: President, A. H. McCreight, Fort Dodge; vice-president, Dr. C. DeJong, Fort Dodge; secretary and treasurer, Dr. G. B. Palmer; delegate to the State Medical Society, Dr. W. W. Bowen.

MARRIAGES.

Dr. Truman Coulter, Allerton, Iowa, to Miss Hattie Caster, Allerton, Iowa, November 26, 1914.

Dr. Edward M. Myers, Boone, Iowa, to Miss Margaret Ross, Frankfort, Indiana, November 24, 1914.

Dr. S. M. Bradshaw, Rock Valley, Iowa, to Miss Elsie Nienhuis, Rock Valley, Iowa, November 24, 1914.

Dr. Louis Kubela, of Cedar Rapids, Iowa, to Miss Agnes Wright, of Chelsea, Iowa, November 26, 1914.

BIRTHS.

Dr. and Mrs. C. A. Boice, Washington, Iowa, December 11, 1914, a son.

Dr. and Mrs. Addison C. Page, Des Moines, December 6, 1914, a son.

Dr. and Mrs. E. Lessenger, New London, November 29, 1914, a daughter.

DEATHS.

Harry T. Walker, M. D., Keokuk Medical College, 1898, Dubuque, Iowa, a member of the American

Medical Association; Iowa State and Dubuque County Medical Societies died at Mercy Hospital, Dubuque, November 30, aged 48.

James D. Wallace, M. D., Rush Medical College, 1893; a member of the Iowa State and Pocahontas County Medical Societies, died at his home in Plover, December 17, age 51.

James B. Cox, M. D., College of Physicians and Surgeons, Keokuk, Iowa, 1865; for forty-nine years a practitioner at Belle Plaine, died suddenly at his home at that place December 20, age 72.

Abner E. White, M. D., College of Physicians and Surgeons, Keokuk, 1880, died at his home in Missouri Valley, December 12, age 89.

Walter W. Atkins, M. D., College of Physicians and Surgeons, Keokuk, 1887, died at his home in Milton December 12, age 61.

Emory Sherman, M. D., Rush Medical College, 1885, a veteran of the Civil War, enlisted in the Thirty-first Wisconsin Infantry as an assistant surgeon and served in that capacity until the close of the war, a practitioner for several years in different parts of the state, died at the home of his daughter, Mrs. James Allison, in State Center, December 3, age 78.

Elias L. Brownell, M. D., University of Vermont, College of Medicine 1868, veteran of the Civil War, having served in the capacity of Second and First Lieutenant and Captain of Company F, Ninth Vt. Infantry, died at his home in Spirit Lake, December 2, age 71.

Elden C. Sturman, M. D., College of Physicians and Surgeons, Keokuk, 1897, member of the Iowa State and Warren County Medical Societies, Hartford, Iowa, died November 29.

Paul Koeper, M. D., Rush Medical College, 1899; a Fellow of the American Medical Association; Member of the Iowa State and Jasper County Medical Societies, Baxter, died at the Methodist Hospital, Des Moines, from tuberculosis of the brain December 12, age 43.

CHANGES OF LOCATION.

Dr. S. M. Magarian of Hiteman, Iowa, has sold his practice to Dr. Hingate of Weeping Water, Nebraska. Dr. Magarian will go to Boston for a year's study.

Dr. G. B. Maxwell of Long Grove, Iowa, has removed to Davenport.

Dr. G. A. Reutter, of St. Joseph, Missouri, succeeds to the practice of Dr. W. C. Johnson, of Council Bluffs, who goes to Texas on account of his health.

Dr. Roy Pence recently of Jett, Oklahoma, has located in Cedar Rapids.

Dr. D. O. King having sold his practice at Eldora, Iowa, will locate in Hampton, Iowa, where he practiced several years ago.

Dr. H. C. Schmitz, an eye, ear and throat specialist, of Sterling, Illinois, has located in Marshalltown associating in practice with Dr. F. P. Lierle.

Dr. Enos Mitchell, of Weldon, has removed to

Cainesville, Missouri, where he will continue his practice with Dr. Hoadley of that place.

Dr. Earl Rice, formerly of Roland, has recently located in Ames.

Dr. H. E. Kirschner, formerly superintendent of the State Tuberculosis Sanitarium at Oakdale, has opened offices in Los Angeles, California. Dr. Kirschner confines his practice to diseases of the throat and lungs.

Dr. C. A. Rhine, formerly of Rowan, has located in Hampton where he has purchased the office equipment of Dr. C. F. Osborne.

Dr. W. R. Arthur, formerly of Greene, has located in Hampton where he has purchased the practice and office equipment of Dr. J. C. Powers.

NEWS NOTES.

Dr. A. D. Smith, Mason City, was recently appointed city health officer of that place.

Dr. C. S. Hutchinson, formerly of Ames, is said to have, recently at Los Angeles, resuscitated a woman apparently dead from anesthesia by massage of the heart.

Dr. F. F. Hall, Webster City is home after a seven months' stay in England.

Iowa City has recently completed a new Isolation Hospital for contagious diseases.

Dr. Arnold R. Moon, son of Dr. A. C. Moon, Williamsburg, is surgeon in charge of the Hospital at Graz, Austria.

Dr. G. D. Rowe, one of the oldest practitioners of Boone has recently visited Hot Springs, Arkansas, for his health's sake.

Dr. H. E. Nelson, of Dayton, recently, in stopping a run away team sustained a fracture of the femur in the stub of his left thigh.

Secretary Sumner, of the State Board of Health, sends out the following State Board of Health Prayer on its holiday greeting card:

The Western Surgical Association, at its recent meeting in Denver, adopted a resolution urging more care on the part of hospitals as to who shall be allowed to operate.

"O Lord! Send us a Santa Claus that will give us healthy homes, clean lives; dispel diseases and give us love for our fellows. We want that which is holy, righteous and lovable—lives free from diseases and purposes which can be owned and blessed by Thee. Amen."

Drs. J. C. Powers and C. F. Osborne, of Hampton, have retired from general practice to take up work in connection with the new Lutheran Hospital at that place. Dr. Osborne will be chief surgeon while Dr. Powers will specialize in diseases of the eye, ear, nose and throat.

Dr. M. C. Mackin, Assistant Superintendent of the State Hospital at Clarinda, has been appointed Superintendent of the State Inebriate Hospital at Knoxville to succeed Dr. George Donohoe who will succeed Dr. M. N. Voldeng, Superintendent of the State Hospital at Cherokee when he takes charge of the new State Epileptic Colony at Woodward.

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No. 2

Oration on Medicine

THE PROBLEMS OF MEDICAL PROGNOSIS *

WALTER L. BIERRING, M. D., Des Moines, Iowa

The selection of this subject for a medical address seemed desirable, because it enters so largely into the daily activities of the physician, and yet as a rule has received but little consideration in Society discussions.

In the evolution of medical knowledge, prognosis has undergone the same remarkable transformation that has characterized the development of diagnostic technique, the pathogenesis of disease, and the advances in therapeutic procedures.

Ever since there were sick, the constant query has been—will a cure be effected? To the sick man prognosis and treatment are always the two immediate demands. With the higher medical culture of the day there is a tendency for the patient to become more interested in diagnostic conclusions and to recognize that logical treatment and prognosis are dependant on a correct diagnosis.

To outline the evolutionary changes in prognosis would be but a historical review of medical progress, and that would apply largely to the development of the present era of medical achievement.

We are compelled though to marvel at the keenness of the medical observer in the Hippocratic period. With no technical means of investigation at hand, regarding the patient purely from the objective viewpoint, how skilful he must have been in interpreting the most minute details. By depending entirely on prognostic signs as revealed by the facies, the position in bed, the breathing, the sweating, dropsical swellings, sleep, urine, stools, and sputum, he often arrived at conclusions equally as accurate as his confrere of a later day.

The statement of Hippocrates, "The body should always be judged as a whole, and all things should be judged by the study of signs and the estimation of their relative value," is still

a good rule to follow, and illustrates that in the beginning of medicine, prognosis, as now, was considered as a comprehensive survey of disease and its probable course. Through the many centuries that followed the Hippocratic era, medical observation was restricted to elementary information, until the introduction of newer methods of examination permitted a better analysis of morbid conditions.

The discovery of percussion by Auenbrugger and Corvisart, and that of auscultation by Laennec, completely transformed the whole of medicine. We may quote with propriety the words of Laennec that "these discoveries meant an effort to place—in regard to diagnosis—internal organic lesions on the same line with surgical diseases."

With the establishment of the great school of pathological anatomy in Vienna by Rokitansky, a system of observation soon developed which could be referred to as an anatomical prognosis. It meant to detect the lesion in the living subject, to identify it at autopsy and deduce from this knowledge a diagnosis and a prognosis. The limitations of this method were soon recognized, because anatomic changes represented but terminal conditions, and gave no idea of changes incident to the course of the disease process, yet it must be evident that the whole of Charcot's great work in neuro-pathology rests on the rational application of this anatomo-clinical method.

Modern medical progress has influenced prognosis largely in that it has led to a better understanding of disease.

With the development of bacteriology, the etiology of the infectious diseases became more firmly established, and with a better conception of their nature more rational prognostic conclusions became possible.

By recognizing that most of the acute infections are self-limited diseases, a so-called natural history of disease has become established, which knowledge in infectious processes like typhoid, malaria, and pneumonia permits fairly definite prognostic conclusions to be entertained in most instances.

In no condition is a bacteriologic diagnosis of

*Delivered before the Iowa State Medical Society, Sixty-third Session, Sioux City, May 13-15, 1914.

greater importance than in throat infections, and the detection of the diphtheria bacillus in the secretions of the throat affects the prognosis in equal degree as it does the diagnosis.

The researches of Rosenow have taught us a newer bacteriology in revealing the properties of transmutation of different micro-organisms; it is indeed remarkable to realize that such entirely different processes as tonsillitis, endocarditis, pneumonia, arthritis, and acute gastric ulcer, can be caused by different strains of pneumococci, modified only by reason of their living under different environments.

The detection of the causative micro-organism in the cerebro-spinal fluid of meningitis cases, has an added significance when we remember that a tuberculous meningitis, and the pneumococcic or a streptococcic meningitis, is invariably fatal, while one that is due to the intra-cellular meningococcus offers the possibility of a cure in forty per cent of the cases, which has been further greatly increased by the introduction of anti-meningococcic serum in the treatment of this disease.

Yet the most essential advance in prognosis came with a proper appreciation of the functional disturbances incident to disease conditions. Without this there can be no proper conception of the prognosis of a lesion of the heart, liver, kidneys, or the digestive and respiratory systems.

As prognosis takes its immediate share in all the advances of diagnostic technique, so with improved instruments and laboratory technique, the thorough researches on the blood and body fluids and cytological reactions, had for its aim to gauge accurately the functional value of the various structures, the organic reactions of defense, the substitutions and compensations, as well as the morbid synergical actions that take place in the human system.

In the gradual development of modern prognosis our reasoning has passed by successive stages, from a consideration of anatomic lesions to functional disturbances and to chemical changes, until it has reached a stage where we reason entirely along biologic lines, and our judgment is based on criteria of a dynamic or vital order.

In order to estimate properly the prognosis of heart disease it is necessary to take into account the functional value of the myocardium; the graphic demonstration of the cardiac arrhythmias has given us a new conception of heart disease, and now to recognize a condition of heart-block, or of auricular fibrillation, and appreciate its significance has a most important bearing on prognosis.

Blood pressure readings, both systolic and

diastolic, with a proper interpretation of pulse pressure, greatly influence our conclusions in cardio-vascular-renal disease.

Equally essential is the determination of the permeability of the kidneys in nephritis, and other renal disorders.

The outcome of an acute pneumonia is often gauged by the degree of fever and the leucocytic reaction; we regard these as evidences of a better resistance to the infection, and are prompted to promise for the patient a more favorable outcome than if such were not the case.

A carefully prepared temperature chart means much for the diagnosis of a typhoid, tuberculosis, or a sepsis, while a sudden drop of the temperature during the course of a typhoid fever, unusual rises of temperature in septic infections, or the failure of a crisis to develop in acute pneumonia, have an equally significant bearing on the prognosis of these conditions. Furthermore, every patient with diabetes mellitus presents an individual problem; the detection of the first signs of acid intoxication, to ascertain the state of his nutritional exchanges, and the ability to bring about a carbo-hydrate tolerance, determine largely the outcome and probable course of the illness.

Therapeutic advance has greatly influenced prognosis. For the last thirty-five years, the whole of scientific and practical medicine has undergone a rapid evolution, and been wonderfully transformed. While there are still many instances where the physician seems powerless, yet the lack of power does not appear so absolute.

Cerebral hemorrhage and pulmonary embolism have lost none of their gravity, but the changes in the circulatory system that give rise to these serious accidents are better known to us, and they can to a certain extent be prevented and better treated.

The prognosis of diphtheria has been entirely changed since the use of anti-toxin. The terrors of tetanus have been removed, while the anti-rabic vaccination of Pasteur is perhaps the most amazing therapeutical triumph of our time.

The introduction of anti-meningococcic serum in epidemic cerebro-spinal fever, has so changed the morbidity data of this disease as to bring about entirely new prognostic conclusions.

In the matter of syphilis, under the modern methods of therapy, we have been compelled to entirely modify our prognosis.

While not so striking as in the infections, therapeutic progress has favorably influenced the various disturbances in nutrititional metabolism, diseases of the ductless glands, and functional

nervous disorders, and among these should be mentioned the influence of organo-therapy, dietetic treatment, physical therapeutics, and surgical procedures as important factors.

Although recognizing that these various advances in diagnostic technique and improved therapeutics have transformed our prognostic viewpoint in many instances, the real duty of prognosis often concerns itself more with the future of the patient after the primary disease has apparently been relieved. Formerly it was imagined that a disease cured had no morrow, but we see the fallacy of that every day. So that, one may well speak of a remote prognosis, and it often constitutes the most important problem.

I would like to refer again to the great work of Rosenow in demonstrating the transmutability of certain micro-organisms such as the streptococci and diplococci normally found in the tonsils and the upper air passages.

In every instance of tonsillar infection we are compelled to think of a possible rheumatic fever, an endocarditis, with a subsequent valvular lesion; the further possibility of an acute appendicitis, acute cholecystitis, and even an acute gastric ulcer as a logical sequence.

How often patients appear to be cured of an acute infection, and yet their health may remain affected, perhaps for ever.

One can not forget the effect of scarlet fever, or a pneumonia on the kidneys; the changes in the arterial system produced by typhoid; the post-infectious lesions of the ductless glands, and the trophic disturbance with arrested growth following acute poliomyelitis.

The frequently observed remote result of latent infectious foci in the form of a chronic arthritis, constitutes one of the most distressing chapters in the field of medicine. And when we come to consider the remote prognosis in the two great chronic infections of syphilis and tuberculosis, there seems no limit to the future possibilities.

In the treatment of a secondary syphilis, it is well known that a disappearance of the symptoms, does not mean a cure of the disease. We have come to rely on periodic tests for Wassermann's reaction, and feel compelled to keep in mind the possibility of late tertiary manifestations, of vascular syphilis in the form of aneurism, or of the distressing cerebro-spinal localizations manifested by tabes or general paresis. There is ample reason for regarding many cases of arterio-sclerosis, and certain chronic conditions of the liver, kidneys, and the myocardium in the same light.

While there is possibly a tendency to attribute too many pathologic conditions to a latent or remote syphilis or tuberculous infection, it can here truly be said that, although we know where prognosis begins, we cannot foresee its limits.

Tuberculosis shares with syphilis in the possibility of tardy consequences. Inoculated in infancy it may come to life in adult age, and sometimes even in later life. Often after many years the real gravity is revealed of a long forgotten glandular enlargement, or a pleurisy long since cured. The same applies to such conditions as gout, lead poisoning, alcoholism, etc., in which acute disturbance may disappear but remote sequelæ are always possible.

It almost seems as if any change in a tissue or body fluid leaves its trace. The interesting phenomenon of anaphylaxis suggests this, in the sensitization of the body to various proteins. The saying of Richet, the French scientist who discovered anaphylaxis, is quite apropos, "We have a humoral personality which makes each different from other individuals; this personality of our humours is due precisely to the various ingestions and intoxications which have affected our system and left an indelible trace." One must admit that these thoughts of individual traits and susceptibilities is quite in keeping with some of the traditions of medicine, and not unlike the old doctrine of the diathesis, which has even recently been warmly defended.

Medical prognosis seems thus to be extending its scope in many directions, yet medical foresight, which may well be another term for prognosis, has a broader function even than the interests of the individual patient.

It concerns itself in a collective way with the welfare of communities of which the patient is a part. Preventive medicine has become a definite part of our activities, indeed, some would have it that it will constitute the real function of the physician of the near future. The influence of the typhoid and the diphtheria carriers in the spread of infection, and how best to control them constitutes one of the most difficult problems of the present day sanitarian.

To determine when a single case of diphtheria breaks out in a school or dormitory, whether an epidemic will result, requires very keen judgment, and is often dependent on the extent to which the other children are germ carriers.

Medical investigation has stimulated the public health official to eliminate foci of epidemics. It is of greatest importance to distinguish whether the development of isolated instances of cerebro-spinal fever and acute poliomyelitis are

sporadic cases, or the first signs of a more or less extensive epidemic.

In still another direction is medical foresight, the important factor, and that is in the effect of disease on the descendants of the patient, considering thus the human species as a whole.

Certain disease conditions are clearly transmitted to offspring, as is evident in the possibility of inherited syphilis, blood disorders, such as hemophilia, and family taints often met with in neuropathology.

By bringing under better control the social diseases as syphilis, tuberculosis, and alcoholism, we are reaching to the highest point in medical prognosis, and in fact all our legislative measures in regard to disinfection and preventive vaccination find in social prognosis their justification.

Sir Francis Galton has brought into being a new science that of Eugenics, and we are all familiar with the widespread interest that has developed in this subject.

To improve the social qualities both physical and mental, of the generations to come, to surround the child before and after birth with the best conditions, is transferring the idea of social prognosis into the domain of prophylaxis.

It will thus be seen that problems of prognosis have become interwoven with the entire fabric of a physician's activities. From the daily observation of the sick, this has been extended to include the social welfare of the individual, the collective interests of the community and the racial betterment of coming generations.

A consideration of the general aspects of prognosis leads to rather hopeful conclusions, and there is reason to be justly proud of the manner in which the prognosis of disease has been influenced by modern medical achievement.

Yet with all there are distinct limitations, and I know of no phase of medical thought where surprises are more liable to occur, or calculated to humble more deeply our medical pride.

With all our avenues for knowledge we are still confronted with the problem of the individual and the living patient, in which there are so many unknown quantities that permit of no definite solution.

How are we to determine which one of the different paths a morbid condition will follow?

We are conscious of a better knowledge of gauging the functional ability of the myocardium, yet how can we know which attack of angina, of paroxysmal tachycardia, or of severe decompensation will be the last. How many remissions of improvement in pernicious anæmia can be expected?

Although fully conversant with the possible

complications of typhoid fever, we can not foresee the intestinal hemorrhage or perforation, which in a few hours may endanger the patient's life.

No one can predict at the onset of a pneumonia the pneumococcal endocarditis, or meningitis, that will cause death.

To this must be added that most uncertain quantity—the reaction of the nervous system; for whether by inhibition or by stimulation, the nerve cell may always add its perturbing influence to disease processes.

Dominating the whole question of prognosis is to gauge the possibilities of the organism that has fallen a prey to illness. Does it possess the necessary power to combat and overcome the disease? This is often the real prognostic problem, and most difficult to solve.

Disappointment and uncertainty seems often to be our lot, yet as stated before the science of prognosis is one of the lofty heights in medicine, and as a corollary of diagnosis, it has followed its progress, and thus shared in lessening the gravity of disease.

In the new alignment that is taking place in medicine and surgery, as the internist becomes more of a surgeon and the surgeon more of an internist, there is hope for better prognostic conclusions, and the problems of prognosis are at all times worthy of our best efforts.

SEPTIC COMPLICATIONS IN SYPHILIS-TUBERCULOSIS AND CANCER*

WILLIAM J. MAYO, M. D., Rochester, Minnesota

The three plagues, syphilis, tuberculosis and cancer are the most widespread affecting the human race today. In each of these sepsis plays a most important part. In syphilis it is so important a factor that, unless it exists, we may not recognize the process as syphilis. In tuberculosis it is almost an axiom that people do not die from tuberculosis, but from the associated sepsis. In cancer sepsis renders many cases inoperable; it is the most important factor in the production of the painful and offensive results of advanced disease and the usual cause of death following radical operations.

SYPHILIS.

"Unto the second and third generation"—how fitly this old quotation describes syphilis, and in this respect it is quite unlike tuberculosis and cancer, neither of which are transmissible in utero. The discovery of the *spirochæta pallida* of syphilis and the newer methods of staining it have placed in our hands a great weapon of de-

*Read before the Des Moines Pathological Society, Des Moines, November 28, 1914.

fense against this plague. Aided by the Wassermann reaction and salvarsan, we are for the first time in a position to combat the disease effectively.

It is believed by many syphilographers that syphilis in this generation is becoming milder as compared with the disease in former generations. Two reasons have been advanced for this: one, that the people are gradually developing an immunity by virtue of hereditary and acquired protective agencies based on the general theory of the survival of the fittest, and, second, that syphilis is much better treated now than it used to be. But how can we account for the high percentage of people with terminal changes in the central nervous system—tabes and paresis? Certainly there is no diminution of these syphilitic manifestations, making all due allowance for better diagnosis. On the contrary, they appear to be on the increase, the clinical frequency of locomotor ataxia and general paralysis of the insane is appalling.

The hardness in the base of the typical chancre and the accenuation of secondary lesions are not due to the spirochæte alone, but to complicating sepsis. (Corner.) The people of all civilized countries are far cleaner now than they used to be and through improved hygienic knowledge take better care of small sores and abrasions than was formerly the custom. The chancre therefore is apt to be treated with strict cleanliness and often by antiseptic substances, so that it may not assume that typical hardness in the base which is due to sepsis. The failure to develop this characteristic because of the cleanliness and care of the individual may cause a failure to diagnose syphilis. For the same reason the secondary symptoms may be exceedingly mild and thus the patient may acquire the disease and pass through the primary and secondary stages without detection. The tendency of the infection is to travel along the nerve sheaths into the central nervous system and the first symptom of syphilis known to the patient may be premonitory of tabes or paresis—terminal conditions for which the resources of our art have comparatively little remedy.

It is a great misfortune that syphilis is considered only a venereal disease therefore carrying a stigma with it. As a matter of fact, a high percentage of the patients that we see with syphilis have had an extra-genital source of infection. Lips, fingers, and abrasions at different parts of the body have been the means of communication. The failure to elicit a venereal history has frequently thrown the diagnostician off his guard.

We see a few cases every year of surgeons

who have infected their fingers with syphilis during operations on syphilitic patients. The chancre often does not develop the typical characteristics because of the care the surgeon naturally gives to minor abrasions and as his personal hygiene is good, he may slip through the secondary stage with scarcely a suspicion. Then comes visceral lesions or lesions of the central nervous system. Occasionally, however, exactly the opposite condition prevails. The surgeon acquires syphilis and virulent septic infection at the same time, and here the syphilitic infection is masked by the septic involvement which, however, does not prevent the eventual development of syphilis, which remains grafted on the individual after the septic manifestations have disappeared. If these accidents happen to the surgeon unrecognized, how much more liable is the ordinary individual to the same misfortune.

The importance of the early diagnosis of chancre cannot be overestimated. Systemic infection does not take place until from 5 to 15 days after the development of the chancre. At this time the disease is local and by proper treatment can be cured. After the Wassermann reaction has developed the great opportunity has passed because syphilis has become systemic. Prolonged treatment may or may not eventuate in a cure. This brings up the very important consideration that the spirochæta exist in the chancre and can there be readily secured for microscopic examination. *The diagnosis of chancre should depend on finding the spirochaete; not on the induration of the base.* Every suspicious infection should therefore be subjected to careful bacteriologic investigation, otherwise the patient may suffer irreparable damage.

Hale White gives the following table of the relation of syphilis to the general death rate, showing that even in those cases which have been subjected to two year's treatment the death rate by decades is nearly twice as high, to say nothing of the miseries and horrors of a loathsome disease:

Class 1. Syphilis certain, thoroughly treated; 2 year's continuous treatment and 1 year's freedom from symptoms.

	Actual Deaths	Expected Deaths	Ratio
Certain syphilis between 3 and 5 years prior to application...	13	9.32	139%
Between 5 and 10 years.....	34	19.56	174%
More than 10 years.....	53	24.42	217%

Class 2. Not thoroughly treated or no details given.

Certain syphilis between 2 and 5 years prior to application...	44	15.52	284%
Between 5 and 10 years.....	54	25.52	212%

More than 10 years.....	76	59.09	129%
Class 3. Doubtful syphilis.			
More than 2 years prior to ap- plication	67	48.71	138%

It is a curious fact that terminal syphilis in man affects the nervous system more frequently than in woman and often pursues a more malignant course. In woman, as a satanic equivalent, syphilis is the great abortionist and carries dreadful misfortune to the children she may bear even unto the second and third generations. In certain situations syphilis leads to chronic irritation and cancer, as in the keratosis linguæ preceding cancer of the mouth (Blair), especially in smokers. It is well known that the tuberculous bear syphilis badly, while the syphilitic are prone to tuberculosis.

There is much food for reflection in the septic factor in syphilis. Those acquiring the disease accidentally and extra-genitally will probably at the present time not have the chancre recognized and the cleaner the person affected the less chance that it will be recognized in the secondary stage. Those venereally affected and dirty have the best chance of early detection and prevention of systemic infection, and, if systemic infection does take place, by reason of the virulence of the secondary stage, to have it detected at this time and to secure thorough and adequate treatment.

It will take the profession a long time to rid itself of impressions of the disease which have been inherited from experience with the vicious and dirty in which the prominence of the symptoms were due less to syphilis than to the associated sepsis. Corner says, "At hospitals students are taught to recognize syphilis from the examples of septic syphilis brought to their notice by their teachers. The septic factor in syphilis exaggerates its characters and furnishes some new ones of so great importance that the great text-books have taken such septic characteristics as illustrative of the syphilitic nature of the lesion." As a corollary to this, Corner further says, "There are few diseases which, if recognized early, are more studiously treated and more uniformly yield good results from treatment than syphilis," and again, "patients with syphilis which is not recognized and not treated, may transmit both to this and to future generations. They then appear with nervous diseases, such as locomotor ataxia, general paralysis of the insane, and other forms of insanity and there is no history of syphilis." I would emphasize Corner's final remark that "if the patient belongs to the better educated classes he may pay a penalty for his cleanliness in the disease not being diag-

nosed and the virtue which he undoubtedly has is not rewarded properly."

In abdominal surgery we unexpectedly meet with visceral syphilis, most commonly of the liver or stomach, and most of these cases are diagnosed as cancer. For this reason, when in doubt, a piece of tissue should be secured for microscopic examination of the frozen section, and while this may not definitely determine that it is syphilis, it at least will show that it is not cancer.

In regard to treatment: In the army, syphilis amongst the soldiers has been very largely prevented by the use of a 50 per cent calomel ointment ($\frac{1}{4}$ lanoline and $\frac{3}{4}$ vaseline or lard), which was first used in the French army. It was found experimentally and clinically by Metchnikoff that if applied within five or six hours after infection, prevention was absolute. Suspicious sores should be subjected to examination for the spirochæte and if present with a negative Wassermann reaction the disease should be treated as a local one by the direct application of salvarsan emulsion or calomel ointment and one or two preventive salvarsan injections made. It must be borne in mind in the treatment of lues as a localized infection that some cases become constitutional before the disappearance of the primary sore. For this reason, a Wassermann test should be made at intervals and the patient watched for signs of constitutional infection.

Many instances of the failure of salvarsan to cure syphilis are recorded, with eventual cure by means of mercury, especially mercurial inunction. As a matter of fact, arsenic in one form or another has at various times in the history of medicine been heralded as a cure for syphilis but always has it eventually been shown to be inferior to mercury.

The value of the Wassermann reaction is very great, but in few serologic tests is the personal equation so prominent a factor. Blood drawn at the same time and sent to several serologists may lead to different opinions, but in our experience a strong positive Wassermann made by a competent man is fairly certain. However, before subjecting the patient to prolonged treatment, this test should be confirmed by a second and a third examination. Unfortunately a negative finding has little value. Syphilis may be present without a positive Wassermann reaction, especially if the patient has been recently treated.

TUBERCULOSIS.

It is almost axiomatic that those afflicted with tuberculosis do not die from the disease but from the associated sepsis. The chief exception is in tuberculous meningitis where the products of

bacterial action are confined in a bony box and produce pressure. The influence of sepsis on tuberculosis is most pernicious. In preantiseptic times the opening of tuberculous abscesses—so-called cold abscesses—was looked upon with great disfavor. It was well understood that incision into such an abscess was promptly followed by what was known as hectic, picket-fence temperature and general physical loss to the patient in every way. The older writers called attention to the fact that when a cold abscess opened spontaneously it did not give rise to hectic but that hectic always followed an incision, nature evidently contriving some valvular method of drainage which permitted the escape of the contents without admitting pyogenic organisms, a method which the surgeon could not imitate. It is true today that no matter how careful the after-treatment may be the incision and drainage of such an abscess is practically always followed by septic complications. It was for this reason that cold abscesses were aspirated and after removing as much as possible of their contents the opening was sealed. This is good practice at the present time. In many cases iodoform emulsion or formalin and glycerin was injected, hoping to sterilize the cavity. Today such abscesses, under strict aseptic precautions, are often opened by a free incision, thoroughly cleared out, and then filled with salt solution or mopped out with iodoform and glycerin, tincture of iodine, or glycerin and formalin, and sutured completely. These operations, however, have very little to commend them over simple aspiration which was the early practice. Such abscesses, as a rule, have their origin in bony tuberculous lesions, although they may be seen in other situations.

Modern methods of treatment by rest and mechanical supports have greatly reduced the number of tuberculous abscesses, and the aspiration of those which form have reduced very materially the number of cases in which such abscesses open spontaneously with sinus formation. In the earlier time patients with tuberculous sinuses were very common, often maintaining a fair degree of health for years. One of the most pernicious practices was to probe such a sinus. This probing was almost invariably followed by septic infection. Fortunately, the practice has now become obsolete; such sinuses can be injected with Beck's paste and an X-ray taken which will show their ramification far better than by probing. It should be remembered that in the use of Beck's paste, asepsis should be carried out, since tuberculous sinuses, the result of spontaneous opening of tuberculous

abscesses, are practically free from sepsis and if infection is introduced into the sinus, sepsis with all its complications may follow and interfere with such prospect of cure or amelioration as might otherwise be derived from the Beck procedure.

The behavior of tuberculosis in the peritoneal cavity is greatly influenced by the presence and degree of sepsis. Tuberculous peritonitis is secondary to a local lesion, usually in the fallopian tubes or intestinal tract or from the retroperitoneal glands. Pure tuberculous infection of the peritoneum will seldom cause extensive adhesions. This variety is most often seen in connection with tuberculosis of the fallopian tubes. It should not be forgotten that tuberculous peritonitis is a symptom and not a primary disease. It is in reality a conservative process. The abdominal ostia of the fallopian tubes in tuberculosis are usually open, unlike gonorrhœa, in which the fimbriated extremities of the tubes are nearly always closed. (Murphy.)

The products of tuberculosis of the mucous membranes of the tubes pass out through the open abdominal ends into the peritoneal cavity. The peritoneum promptly undertakes to remove these tuberculous products and the resulting reaction with the accumulation of ascitic fluid we speak of as tuberculous peritonitis. It has been known for a long time that if the ends of the fallopian tubes were open free fluid and tuberculous peritonitis would exist, while if the tubes were closed there would be no tuberculous peritonitis, but the material would be retained within the tube, forming tuberculous pus tubes, sometimes of huge size containing typical tuberculous-whey-like-fluid. The ovaries are not often involved in this process, to a greater extent than the intestines or the peritoneum generally. The proper treatment, therefore, is the removal of the tuberculous tubes leaving the uterus and ovaries, and closure without drainage.

If drainage is used we may have the development of sinuses often followed by mixed infection from some intestinal focus and finally in many instances by prolonged suppuration or fecal fistulæ. The sequence is about as follows: When the drain is used a certain amount of fluid escapes during the early period. After a few days the drain is removed and there is little discharge. During the next week or two there is a constantly increasing discharge which becomes purulent and in the course of a month or six weeks a fecal fistula may develop from which a little gas and feces escapes, troubling the patient for months or years. In some instances, wide intestinal openings occur with extensive

septic infection of the already existent tuberculous lesions, and the patient dies. The drain has permitted subsequent septic infection.

It is very essential therefore that in tuberculosis of the peritoneum, drainage should not be used *unless mixed infection is already present*. The old idea that tuberculous peritonitis could be cured by drawing off the fluids and that some special influence was created by exposing the peritoneum to air or by pouring in glycerin, iodoform, oxygen, or what not was based on a misconception. It is true that if the fluids were drawn off with a trochar cure did not result, and it is also true that if the abdomen was opened cure often did result whether or not any other special treatment was employed. This was due to the fact that when the abdomen was opened the fluid was thoroughly removed and the ends of the fallopian tubes, which were separated from the surrounding parts because of the fluid, had an opportunity to become adherent to some neighboring point on the peritoneum and the tubes, closed by these adhesions, no longer drained the tuberculous debris into the peritoneal cavity. This tubal retention could often be detected by the gradual development of tuberculous pus-tubes after the ascites had disappeared. Such tuberculous pus-tubes in the course of time may heal, but they usually remain a grave source of danger of general systemic tuberculosis.

Vaginal section was at one time very popular for pelvic infections, justly so for those phlegmons due to ordinary pyogenic organisms, such as occur post-puerperal or post-abortive. The draining of a pelvic tuberculous infection from tuberculous tubes by an incision through the vagina causes most serious after effects and often the patient loses her life, not at once, but later through mixed infection and prolonged septicaemia with multiple rectal and intestinal fistulae.

It can be laid down as a rule that pure products of tuberculosis in the pelvis should not be drained because of the impossibility of preventing septic complications. They should be removed by a clean, careful operation through the abdomen without permitting septic infection and without permitting the chance of sepsis later from drainage. Tuberculosis of the fallopian tubes practically always involves both tubes. This is also true of gonorrheal salpingitis.

I have given these few examples of the influence of septic complications as introduced by drainage which is quite parallel to the knowledge of the ancients in regard to the treatment of the cold abscess, showing the pernicious effect of drainage in permitting a subsequent mixed infection of tuberculous lesions.

Tuberculosis of the peritoneum, however, having its origin in the intestine, is very liable to be a mixed infection from the start and is peculiar in the fact that instead of developing large quantities of fluid it produces a distended abdomen filled with adhesions. Some of these greatly distended abdomens feel almost wooden on palpation and on attempting to open the peritoneal cavity it will be found to be almost completely obliterated by adherent coils of intestine. There were many descriptive terms for this condition according to the extent and virulence of the complicating sepsis, from the completely adherent type in which no free cavity of the peritoneum would be found below the transverse colon and those milder and attenuated types in which free fluid would be found with comparatively few adhesions. This very interesting condition was long a puzzle, but I have been able to secure three cases in so early a stage that we found colon and other bacteria in connection with the tuberculosis. A little later the septic infection could not have been detected because these bacteria, having a shorter life, would have been destroyed and in the later stages only the tuberculous condition would have been apparent, although the adhesive process had been caused by the septic complication.

It is curious that the appendix, which contains lymphoid tissue analogous to the tonsil, is seldom the primary seat of tuberculosis. In the examination of 12,003 appendices we found tuberculosis in but 71 cases.

The effect of sepsis upon tuberculosis is well shown in the so-called hypertrophic tuberculosis of the cecum. Here a huge tumor may exist with enormous thickening in the submucosa, giving a picture almost typical to the naked eye of carcinoma. Some cases of this kind have been opened up, believed to be carcinoma, and on account of the enlarged glands, usually from sepsis however rather than from tuberculosis, have been considered inoperable and a colostomy done. Such patients may live for years—supposed examples of the slow course of carcinoma of the cecum.

The ulcerative type of tuberculosis of the cecum under the influence of septic infection often forms fistulous communications between the cecum and the surfaces of the body which are most difficult to cure.

In 1899, I published an article on "Localized Tuberculosis of the Intestine." At that time it was not believed that primary localized tuberculosis limited to any portion of the intestinal tract ever occurred, but that it was always the result of pulmonary tuberculosis, usually from swallowed sputum. I called attention at that

time to the fact that in my opinion cow's milk was responsible for this infection. I instanced that in the country districts pulmonary tuberculosis was comparatively rare but that localized tuberculosis—of bones, joints, intestines and glands—was exceedingly common, that it was customary to use raw milk as a regular article of diet and that a considerable percentage of milk cows were infected with tuberculosis. It was in this way that swine became so extensively tuberculous. A man feeding milk to his hogs, if his dairy herd was free from tuberculosis, had no tuberculosis among his hogs, but when the milk began to be carried to the separators and creameries and the farmer took back not the milk from his own herd but a mixture of milk from many herds tuberculosis in hogs was almost the rule. This I believe is now prevented by law. But of course that is only for hogs which are of value commercially. For our children no such protection exists. Tuberculous milk from tuberculous herds is peddled around in nearly every city in this country and the little children who are infected with bovine tuberculosis are to be met with on every hand.

Koch, in a series of experiments, thought he proved that bovine tuberculosis did not attack the human. All he did, however, was to demonstrate that healthy cattle did not acquire human tuberculosis. We already knew that healthy human beings would not take tuberculosis. It required a breaking down, so to speak, of the constitution of the human or of the cattle to permit the development of the disease.

I think it can be said at the present time that localized tuberculosis of the bones, joints, intestines and glands is usually due to the bovine type of bacilli and obtained from infected milk. Milk is infected not only with tubercle bacilli but with septic bacteria as well, and these latter micro-organisms set up lesions in the gastro-intestinal canal marked in younger life by gastro-intestinal irritation. Through these lesions, the tubercle bacillus gains entrance to the circulation. One of two things must be done. Milk must be pasteurized and no milk allowed to be sold that has not been pasteurized or else it must be certified from herds that have been carefully tested for tuberculosis and in which the milk is gathered with extreme cleanliness. The pasteurization of milk is and has been employed in many cities. In Philadelphia, all milk will be pasteurized. Heidelberg which was notorious for its tuberculous children has been almost freed from the white plague by the pasteurization of milk. It simply means heating the milk up to 160 degrees under proper conditions, which not only

kills the tubercle bacilli but the bacteria of sepsis as well. It is probably today the most practical way of handling the milk question.

CANCER.

Much of the cachexia of cancer is due to associated sepsis and much of the pain comes from septic infection. In the later stages and especially where there are metastatic deposits, nerve-pressure may be the cause of very severe pain, as in "paraplegia dolorosa." But the rule holds good that in the primary growth the action of septic bacteria on the necrosed tumor and the pyogenic infection of the surrounding tissue already sadly crippled by the malignant change are the causes of the greatest distress and hasten the death of the patient. In internal situations, such as the liver, where the growth is not exposed to infection, the tumor may often reach large proportions and the patient die without severe suffering. Pierce Gould found in the Middlesex Hospital, London, that careful attention to cleanliness and antiseptic measures gave so much relief that morphia was seldom required; even further, that patients could not only be relieved of their pain, but that the symptoms were so greatly ameliorated that they gained in strength and flesh merely by scrupulous attention to cleanliness.

Bland-Sutton believes that the mortality following operations for cancer is to a great extent influenced by the amount of sepsis present and especially by the character and virulence of the invading bacteria. Cancer of the cervix uteri, by reason of the virulent streptococci present in its sloughing recesses, gives a high mortality following radical operation; and without question much of the benefit which follows the application of heat and radio-active substances in cancer of the uterus is due not only to the destruction of the growth itself but also to the destruction of the bacteria present. Bland-Sutton points out that the great mortality which has marked radical operations for cancer of the large bowel and rectum is due to septic complications. It was the high mortality of primary resection of such colonic growths, especially those beyond the splenic flexure, which led to the two-stage operation of Mikulicz, Bruns and Paul. In this procedure the diseased portion of the large bowel is lifted from its bed with the fat and glands, and brought outside the body, and left to remain in this position until it heals in. The involved sigmoid may then be cut away and after the parts have been rendered reasonably sterile, the continuity of the intestinal tract can be restored by an operation which is largely extraperitoneal. In this way the mortality has been reduced one-half.

In the rectum the same result is obtained indirectly by first doing a colostomy and subsequently carefully cleansing the lower fragment for some days before doing the radical operation, again reducing the mortality by one-half. So true is this that an apparently inoperable growth in the rectum, fixed and adherent, may often be so benefited following colostomy and cleansing as to become operable.

There is a type of cancer which is often called inflammatory—a foul, indurated ulcer, covered with sloughing material, with an extensive inflammatory zone, brawny and red in character. If operation is attempted in this condition, the patients are seldom cured of the disease. The lymphatics in the vicinity become loaded with cancerous material from the cut surface and metastasis quickly takes place. If such a condition, however, is treated by slow coagulation with the actual cautery, the parts will become clean and healthy, the bacteria and cancer both being destroyed. When the induration and inflammatory zone have completely disappeared the entire area may be removed with plastic repair of the defect. In this way patients can be cured who would otherwise be hopeless.

I examined a woman recently who had been to us twenty years ago with a cancer involving the cicatrix of a burn on the buttock received when she was a child. There was a sloughing, foul, indurated cancer and an inflammatory zone, altogether the size of a dinner plate. Under an anesthetic this was thoroughly cauterized with the actual cautery, charring it until a perfectly dry eschar was obtained. This was treated with dry boracic acid until it separated, which required several weeks. For fear some of the cancer might have been left, the entire area was then removed with the knife and skin-grafting done. Permanent cure followed.

About the mouth the same conditions often obtain—red, brawny tissue surrounding the cancer as a result of infection. Here the thorough use of the actual cautery, as advised by Ochsner frequently prepares the field for successful operation.

Heretofore we have not given sufficient attention to the septic complications of cancer, especially in relation to preparing the field for operation. The extraordinary change which may be made in a growth by sterilization of the field must lead us to the conclusion that not only is sepsis a cause of serious symptoms to the patient, but that it is a most serious condition considered from the operative standpoint, and that the success or failure of an operation may depend as

much upon the septic condition as upon the cancer itself.

We say that cancer is malignant in proportion to the ratio of cells to the stroma, the cells representing the cancer, the stroma the resistance of the patient. Many patients have comparatively little resistance to the cancerous cell, but react vigorously to a burn, throwing out an enormous amount of connective tissue which may strangle the few cancer cells that have not been destroyed by the cautery itself.

It has been shown that the cancer cell, like all embryonic cells, is especially injuriously affected by heat, and that the difference between the normal cell and the embryonic cell of cancer in this respect is from 15 to 30 degrees. Based on this, Percy, using a reostat and an electric cautery, has introduced a method for the application of heat by a slow cooking process, keeping within this marginal difference. In this way the heat, in a manner, reaches out into the tissues and destroys the cancer cell beyond its injurious effect on the normal tissues. We are now applying the Percy method to infected cancers in all situations.

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AMERICAN PROCTOLOGIC SOCIETY

Sixteenth annual meeting, held at Atlantic City, N. J., June 22 and 23, 1914. President, Jos M. Mathews, Louisville, Ky. The vice-president, Jas. A. MacMillan, M. D., Detroit, Mich., in the chair. Officers elected for the ensuing year: President, Louis J. Krouse, M. D., Cincinnati, Ohio; vice-president, Collier F. Martin, M. D., Philadelphia, Pa.; Secretary-treasurer, Alfred J. Zobel, M. D., San Francisco, Cal. Executive Council: Jas. A. MacMillan, M. D., Detroit, Mich., chairman; Louis J. Krouse, M. D., Cincinnati, Ohio; Lewis H. Adler, Jr., M. D., Philadelphia, Pa.; Alfred J. Zobel, M. D., San Francisco, Cal.

The place of meeting for 1915 will be San Francisco, Cal. Exact date and headquarters will be announced later.

The following were elected Associate Fellows of the Society: Dr. Wm. H. Axtell, Exchange Block, Bellingham, Wash.; Dr. Rolla Camden, 915 Avenue of the Presidents, Washington, D. C.; Dr. Descum C. McKenney, 1250 Main St., Buffalo, N. Y.

EXPERIMENTAL FOCAL INFECTIONS
AND THEIR BEARING ON CLINI-
CAL MEDICINE*ROBERT H. BABCOCK, M. D., LL. D.
77 East Washington St., Chicago

The germ theory of disease has become an old story and yet it is not forty years since the late Dr. N. S. Davis in his lectures to us students on the etiology of malaria speculated on a miasm arising from the soil as its probable cause. It is but thirty-two years since Robert Koch established in a masterly manner the relationship between tuberculosis and the tubercle bacillus. Even less time has elapsed since Fraenkel announced the discovery of the pneumococcus as the causative agent in fibrinous pneumonia, and it is not so very far back that fecal concretions, grape seeds and the like in the appendix were spoken of as the presumptive cause of some cases of appendicitis. Lastly it is not twenty years ago that physicians were regarding inflammatory rheumatism as due to an acid in the blood while arthritis deformans up to a very recent date was attributed to a disturbance of metabolism or to a neuropathic alteration in the nutrition of the joints.

It is interesting to note, therefore, how radically our notions of the etiology of these and other chronic or acute affections have been or are being changed. Not only are we given an effective working basis by our change of views but we are getting a broader outlook as general practitioners and are bound to become better diagnosticians through a clearer knowledge of the relationship existing between diseased conditions local and general but especially between local processes more or less remote from each other. Thus if we bear in mind the close etiological and clinical connection existing between tonsillitis and appendicitis between disease of the appendix or gall bladder and perverted gastric function we shall be the more likely to refer to their proper cause many of the cases that come to us under the guise of stomach trouble or indigestion.

So numerous have been recent communications on focal infections that the subject has become already well nigh a hacknied one, and yet I have ventured to choose it as my text because the deep impression it has made on me leads me to hope it may not have lost its interest for others. Chicago workers have been and still are remarkably diligent in their research experimental and otherwise along the line of focal infections, that is, as to their bacterial cause and their relationship

one with the other. Accordingly I shall draw upon their results for much of what I shall say in this paper.

Let us now leave this preamble and get at the gist of the subject, and as the poet saith, "to point a moral and adorn a tale" I present a number of specimens kindly furnished by Dr. E. C. Rosenow, of Chicago, who has done much interesting and instructive work in the production of focal lesions in animals. These specimens show typical appendicitis in the rabbit, gastric ulcer in the dog and cholecystitis also in the dog. They were all produced by intravenous injections of streptococci and some of the strains used in the experiments have very interesting histories. Thus this specimen of appendicitis has the following history.

A young woman had been in poor health for a year and had sought the opinion of several physicians without receiving help. At length a surgeon decided the cause lay in a chronic appendicitis and operated. This appendix was removed and without being opened was given to Rosenow for examination. It did not look very bad to casual inspection but on being laid open was seen to present a number of punctate hæmorrhages and small ulcers on the mucosa and to contain a fluid. Cultures were made from the material thus furnished and showed streptococci together with colon bacilli. These mixed organisms were then injected in proper doses into four rabbits with the result that typical appendicitis was produced in all. (The first specimen of appendicitis shown you having come from one of these rabbits.) Small hæmorrhages were found also in the stomach, intestines and gall bladder I believe. Rosenow then told the surgeon that there must be some primary focus in the young woman which was responsible for her appendicitis. So the throat was examined and it was seen that her tonsils had been removed. But on one side of the throat was a small shred remaining from which a drop of pus was obtained. On the opposite side was a cicatrix and in this scar tissue was an opening leading into a pocket behind. From this pocket a cubic centimeter of pus was squeezed and from this pus were grown streptococci.

Now let us see what Rosenow has done in the production of acute cholecystitis in animals. Suspecting that the organism responsible for infection of the gall bladder was to be found in the mucosa and not in the contents of the viscus he obtained a portion of the mucosa from a case of cholecystitis that had passed from the acute into the subacute or chronic stage. From this material he obtained streptococci. Then in pursuit

*Read before the Second District Association, Davenport, November, 1914.

of his investigation he visited the Mayo clinic and was given specimens from thirty-five operated cases of cholecystitis. Five of these in which evidence of disease was very slight or doubtful yielded negative results on culture. Of the remaining thirty, two likewise gave no growth, while the other twenty-eight showed streptococci. Colon bacilli were obtained from the mucosa only when they were also present in the bile. The typhoid bacillus was found once in the center of a gall stone. Dogs were then injected with the streptococci and when the dose was not too large acute cholecystitis resulted in every instance. Rosenow is of the opinion therefore that the bacteriology of cholecystitis will have to be rewritten, since the bacteria are to be found in the wall of the viscus and not in its contents.

And now what can be said with respect to gastric ulcer in the light of Rosenow's experiments. In a short paper on the subject he states that he has by intravenous injections of streptococci, giving a grayish—not greenish growth, produced typical gastric or peptic ulcer in eighteen rabbits, six dogs and one monkey. Charles F. Martin in the second edition of Osler's *Modern Medicine* says experimental ulcer in the lower animal is not to be regarded as satisfactory proof of the etiology of this lesion, since ulcers are often found in the stomachs of both rabbits and dogs. To this objection Rosenow points out that the ulcers so often found in these animals are superficial erosions and do not correspond to the peptic ulcers found in the human, while those he has produced in animals do. The ulcers were usually single, though occasionally double, were small and deep with clean cut edges. The base was usually clean though in some the bottom of the ulcer was covered by a brownish blood-clot. There was a marked tendency to hæmorrhages especially in the dogs. The location of the punctate hæmorrhages and of the ulcers was most often near the pylorus, next at the fundus and least often near the cardiac orifice. Ulcers also occurred in some of the animals in the duodenum. Arthritis, myositis and an ascending nephritis were also found in some of the animals. Rosenow further points out that streptococci were found in the blood-vessels leading to the site of the ulcer as well as in the wall of the ulcerated mucosa. On the whole, therefore, it seems to me that this experimenter has sustained his contention and that the objection urged against his experiments is not valid. Finally Rosenow states that he has the statistics of the postmortem findings in 90,000 rabbits and that typical gastric ulcers like those produced by him were found in only seven instances.

In further support of his contention is the announcement by Rosenow in a recently published paper that by a newly devised cultural method he has succeeded in obtaining streptococci from the depth of the tissue from sixteen out of twenty-one excised gastric and duodenal ulcers.

What now is the bearing of these experimentally produced focal lesions on clinical medicine? In the first place they have a great etiological significance, while in the second they should influence our therapeutics and lastly they should help us to become better diagnosticians. They teach that appendicitis is of hæmatogenous not intestinal origin and that the colon bacillus plays a minor role in its causation. Constipation or fecal concretions may arouse symptoms by interfering with free drainage of the appendix, but the agent causing the appendicitis is the germ carried thither in the blood-stream.

Acute cholecystitis often attends or follows typhoid fever and when so the primary focus of infection is in Peyer's Patches whence the bacillus is carried to the gall bladder in the blood or lymph. But chronic cholecystitis occurs in many persons who have never had enteric fever. In them there has been some other acute infection of a streptococcic origin, as perhaps inflammatory rheumatism, or a focus exists which has harbored streptococci and which has discharged these bacteria into the general system. This consideration may assist sometimes in establishing the diagnosis of gall bladder infection. The same line of reasoning applies with respect to the diagnosis of ulcer of stomach or duodenum in some cases certainly. Given suggestive stomach symptoms and pyorrhœa for example the combination will render the existence of ulcer very probable, not because germs are swallowed but because of their entrance into the blood and of their thus reaching the digestive organs.

In the animal experimented on the primary focus is the syringe of the experimenter but in the human there must be a focus in which germs may grow and which is likely to harbor streptococci since these seems to be the organism most often responsible for focal lesions in abdomen, joints, heart, etc. Without wishing to assert that the primary focus or atrium of infection is always in the throat or mouth I yet believe that the most frequent portal for entrance of streptococci is to be found in tonsils, gums or jaws.

D. J. Davis has shown that it is the streptococcus hemolyticus or pyogenes which gaining access to the crypts of the tonsil produces acute follicular tonsillitis, also that when this streptococcus is exposed to higher oxygen pressure on the surface of the tonsil it becomes converted

into the streptococcus viridans. Rosenow has proven by a brilliant series of laboratory cultures and by animal passages that this latter organism can become converted into other strains of streptococcus and even into true pneumococcus. Furthermore these various strains of streptococci seem to possess different pathogenic properties. Thus one substrain of the *s. rheumaticus* which has feeble hæmolytic power, appears capable of causing myositis and to possess a sort of affinity for muscle, since Rosenow has isolated it from areas of myositis or so-called muscular rheumatism.

If now streptococci can be modified or transformed in the laboratory it does not require a stretch of the imagination to conceive of their modification or transmutation in the animal economy. Furthermore the action of one strain may prepare the way for the action or entrance of another. In this manner probably the action of the hæmolytic streptococcus in causing acute tonsillitis prepares the way for the growth of the rheumatic or the viridans strain with their well known disastrous effect on the animal economy.

Very many times the acute tonsillitis subsides without leaving behind any more serious consequences than a chronically infected tonsil, but this diseased tonsil is an admirable culture medium for this same or another streptococcus as the viridans or rheumaticus. Either for this reason or because the *s. hemolyticus* becomes transformed into the *s. rheumaticus* a tonsillitis is very apt to precede articular rheumatism or in children rheumatic endocarditis. Such a sequence of events is often overlooked but I venture the assertion that either through careful inquiry or by inspection of the throat one can usually convince himself of the direct etiological relationship existing between an attack of rheumatic fever and either an inflamed throat or a previous or still existing tonsillitis.

The throat is the favorite camping ground of and is accessible to a host of invading micro-organisms and it may be that the streptococcus rheumaticus was already present there and needed only a tonsillitis to furnish it suitable soil for growth and multiplication. Or, and this is not at all impossible as already stated the streptococcus hemolyticus becomes converted into the strain of rheumatism. At all events there is some sort of close connection between tonsillitis and articular rheumatism, for years ago and before Poynton and Paine announced their discovery of the micrococcus rheumaticus a German experimenter named Meyer I believe, produced arthritis in rabbits by the intravenous injection of bacteria or of secretions obtained from the tonsils

of persons with rheumatic fever, and Rosenow has obtained the streptococcus rheumaticus from inflamed joints within the first twenty-four hours.

Now what has all this to do with focal lesions such as appendicitis and ulcer of the stomach or duodenum one may ask. Well! it happens that when experimental gastric ulcer is produced in lower animals it must be by a strain of streptococcus that is not too virulent, just as Rosenow says he produces appendicitis in the rabbit if the dose of streptococci be not too large. The streptococcus rheumaticus is not very virulent and it is just this very strain with which he has been able to produce appendicitis in animals. The streptococcus hemolyticus appears to be too virulent and the viridans streptococcus not virulent enough. Accordingly such appears to be the explanation of the connection existing between tonsillitis and certain focal infections. The following is a case in point.

A young man whom I had examined a year or two previously and in whom I had found an aortic insufficiency of rheumatic origin developed an acute articular rheumatism with what was feared might prove to be endocarditis, and I was asked to see the patient. The joints were actively inflamed but as I at once surmised the tonsils also showed plain signs of acute infection on top of their long standing chronic disease. But the interesting and highly instructive feature of the case was the development in the midst of the rheumatism of an acute appendicitis for which surgical advice was sought by the family doctor. No operation on the appendix was done, but after the acuteness of the illness had passed his tonsils were at my suggestion successfully removed and a year later the young man was driving his automobile and was declared perfectly well except for his aortic regurgitation.

To my mind the case just mentioned and the fact that appendicitis can be produced by the intravenous injection of streptococci throw light on the so-called stomach attacks experienced by children who are found to have valvular lesions of rheumatic origin. I can recall more than one child in whom there was precisely this combination. Every now and then the child would have nausea with vomiting and a stomachache. There was usually a rise of temperature of two or three degrees. After the administration of a cathartic and on a restricted diet for a day or two the attack would subside and the child would again appear well. I was usually consulted to know if these attacks were attributable to the heart which had been left damaged by previous rheumatic endocarditis. Palpation of the abdomen in these cases

has always demonstrated more or less tenderness about McBurney's point and it has called forth slight but appreciable rigidity of the right rectus muscle.

I think the inspection of the throat has invariably revealed a pair of large infected tonsils. Under such circumstances I have been suspicious to say the least of a chronic appendicitis, and when this suspicion has been expressed and the family doctor or parent has been told to be on the lookout for the possibility of an acute attack of appendicitis, the silence with which my suggestion has been received has said as plainly as could words that I was "way off." Unfortunately I have not been able to follow up these cases, but I certainly regard the combination described as highly suggestive and I would advise family physicians to bear in mind when dealing with stomach attacks in children the possibility, nay! the probability of a close connection between a streptococcus sore throat or tonsillitis and focal infections in some of the abdominal organs. The same thing holds true with adults. For my part I can not see how individuals with diseased throats or mouths can expect to have healthy digestive organs.

Consider pyorrhœa alveolaris for instance. It is well known that this unclean and often times disgusting condition is very apt to be associated with indigestion. We have been wont to attribute the digestive disturbance to the swallowing of germs and pus along with the food, and it may well be that such is a factor in the stomach disorder, but in the light of Rosenow's experiments it is far more likely that the disorder of digestion is due to some focal lesion caused by the localization of germs carried thither in the blood stream.

Another primary focus of infection may be an alveolar abscess and such an abscess may be wholly unsuspected by the individual. Cultures from the pus in such cases generally reveals streptococcus viridans as the predominant organism, and with a view to elucidating the etiology of the case about to be narrated let me again call attention to Rosenow's statement that by intravenous injections of one of the strains of streptococcus (one closely related to the streptococcus rheumaticus and which possesses feeble hæmolytic properties) he has produced areas of myositis. Furthermore he has recovered the micro-organism from the inflamed area. The case to which I referred was one of what would be diagnosed as chronic muscular rheumatism.

The lady aged fifty gave a history of myocardial inadequacy for which she had been under treatment for about two years. Some ten days

before coming under my observation she had developed pronounced lameness of various groups of muscles and tendons. Thus the muscles of the legs, the ham tendons and the muscles of the neck and shoulders were so painful to palpation and on contraction as to have made her in a short time practically bedridden. She was removed to a hospital for study and treatment. She displayed only about a degree or a degree and a half of temperature and her leucocytes were but moderately increased to never over 13,000. The heart was accelerated and very slightly dilated. The urine was free from albumin, sugar and casts and all other organs seemed negative. There was no history of previous tonsillitis and the throat looked quite normal. The teeth also to casual inspection appeared negative, although one tooth had been crowned. There was likewise no history of attacks of appendicitis or indeed of any acute infection. In a word so negative were both anamnesis and findings that I was at a loss to figure out the source of the infection and for a time was inclined to attribute the muscular rheumatism to a faulty metabolism or to intestinal intoxication. Accordingly vigorous elimination was resorted to through bowels, kidneys and skin and for a number of days she was restricted to an exclusive water or milk and water diet. This plan of treatment seemed to lessen slightly the muscular stiffness and soreness, but whenever she was allowed solid food her condition became distinctly aggravated. Several weeks thus went by and all the time I was searching in vain for some primary focal infection.

One day in response to my reiterated inquiries she admitted that she had a loose molar in the lower jaw and one tooth that had been crowned. She was emphatic in her declaration that they did not pain and never troubled her. Notwithstanding this statement the X-ray was called into requisition and the skiagraph disclosed an abscess in the inferior maxilla. A dentist extracted five teeth the next day and the contents of the abscess gave out such an offensive odor that the nurse was obliged to leave the room. A culture from this pus yielded streptococcus viridans as the chief bacterium but in addition the streptococcus mucosus and an unidentified anærobic bacillus. Vaccines were prepared and administered with gradual improvement in the symptoms although the patient is still not quite well.

Now without the laboratory and experimental work that has been done in recent years, the etiology of this and allied cases would not be understood and we should still be groping for a means of cure. In this connection you do not

need to be reminded of the light that has been thrown on the nature of arthritis deformans by the study of the lymphatic nodes in the vicinity of the joints and the establishment of the infective nature of this hitherto intractable disease. I say hitherto, for it has been shown that by the discovery and removal of the primary focus of infection, whether in gall bladder, pus tube, tonsils or elsewhere, and by the administration of vaccines prepared from the germs found in the nodes draining the deformed joints, we are able to ameliorate if not actually cure this distressing malady.

In passing let me call attention also to certain recent reports of work done at the Presbyterian Hospital in Chicago in the detection of focal infections as a possible cause of exophthalmic goiter. In the *Journal of the American Medical Association*, Vol. LXIII, No. 11, appear two papers which were read before the Section on Practice of Medicine at Atlantic City in June of the current year, one by Dr. Frank Billings and one by Rosenow, wherein it was shown that a number of cases of enlarged thyroid with cardiac and other symptoms indicative of Graves's Disease were greatly benefited by the removal of infective foci in the throat and mouth such as diseased tonsils, alveolar abscess, etc. In his paper Rosenow states that an "anaerobic gram-positive diplobacillus like organism," was isolated from the thyroid gland freshly obtained after operation in twenty-five out of thirty-two cases of goiter the most of them instances of exophthalmic goiter in human subjects and from the blood in two cases of acute hyperthyroidism.

In one of the last papers written by the late John Musser he gave it as his opinion that exophthalmic goiter should be regarded as a medical case and as due to some focal lesion hidden away in the body, that every possible means should be employed to find and remove such primary lesion and that the patient should not be turned over to the surgeon until the skill of the physician had failed to detect the focus and to cure the patient.

Musser's paper greatly impressed me for I had been coming gradually to the conviction that Graves' Disease might not be a purely nervous affection with excessive stimulation and secretion of the gland. Accordingly when in June, 1912, I had a young woman under my care with goiter and tachycardia and when I discovered diseased tonsils and an alveolar abscess I insisted upon removal of these foci of infection in the belief that it would favorably influence the course of the goiter. In this I was not disappointed for in a recent communication from the young lady she reported her goiter as greatly

lessened in size and her general health improving.

With reference to some other affections also it may be said that Rosenow has isolated a considerable variety of organisms in Hodgkin's Disease, in leukæmia, in erythema nodosum and in cystic ovaries, there being sometimes more than one organism in each. In Hodgkin's Disease the glands yielded a diphtheroid bacillus, while in erythema nodosum the organism obtained in pure cultures from the nodes in seven cases and from a cervical lymph gland draining an infected tonsil was a polymorphous diplobacillus. It was also obtained in mixture from the tonsil and superficial ulcer on the anterior pillar in two cases.

It goes without saying that in all these and in perhaps other diseases there must be a primary focus of infection and that as skilful physicians we must search out and have removed this original atrium. It may be and often is a difficult task but the time and labor involved will be amply rewarded.

In pyorrhœa and alveolar abscess, Chicago workers find usually the *s. viridans*, a by no means harmless germ as we know. Bass of New Orleans is said to have identified the *entamoeba buccalis* in eighty-five of eighty-seven cases of pyorrhœa and to have cured them by hypodermic injections of emetin. But when the *s. viridans* is present the only radical treatment is in extraction of the teeth, since the suppuration about the roots of the teeth is likely to be associated with or to lead to alveolar abscess, and the presence of the viridans organism in the alveolar tissues of the jaw is a constant menace. I believe the reason that the lady above mentioned suffered an aggravation of her rheumatism whenever allowed to take solid food was that the action of the jaws in mastication favored increased absorption of the germs or their toxins. The relation of pyorrhœa to possible gastric or duodenal ulcer has been mentioned, but now I wish to state that this focus of infection is often responsible for cases of malignant endocarditis.

How deadly an organism this germ when once lodged within the capillaries of the valves is shown by these specimens. They are instances of infective endocarditis in the rabbit and dog produced by the intravenous injection of the streptococcus viridans obtained either from the blood of patients or from the tonsils. These specimens are but additional instances of focal infection produced experimentally, and I should like to conclude this paper by some remarks on this type of endocarditis, the facts to be mentioned having a most practical bearing for us clinicians.

In the first place bacterial involvement of the

endocardium is caused not by implantation of the germs upon the surface of the valve out of the main blood-stream, as was once conjectured, but the organism whether the streptococcus rheumaticus or viridans is carried into the capillaries supplying that portion of the endocardium. Collateral circulation is not very rich and so the germs are enabled to grow and multiply before they can be destroyed by the phagocytes. As we know most cases of rheumatic valvulitis even in children are recovered from if the pericardium or myocardium be not also extensively implicated. The valve is left sclerosed and in time cicatricial contraction takes place with more or less obliteration of the vessels supplying the valve. In a restricted sense this may be considered as a preservative process but it possesses this serious consequence; namely, if bacteria gain access to the valve anew there is still less possibility of their destruction by the phagocytes. Now this is precisely what happens whenever the streptococcus viridans enters the blood from the throat or mouth and is carried to valves previously damaged by the streptococcus rheumaticus.

This consideration renders necessary the detection and removal of any infective focus in persons having chronic endocardial lesions. As already pointed out, inflammatory rheumatism starts more often than not as a throat infection and the majority of individuals, particularly children, with valvular disease furnish evidence of chronic tonsillar or mouth or I may add nasal disease. Such processes furnish admirable breeding places for the deadly viridans and hence these structures should be put, and kept in as healthy a condition as possible. Chronic tonsillitis is the most likely and dangerous condition for persons with valvular lesions no matter how well compensated and hence complete tonsillectomy is the procedure that should be insisted upon in all cases furnishing a history of repeated attacks of tonsillitis even though these structures may not present marked evidence of disease. Small, fibrosed tonsils are often found on removal to contain cheesy material or even a pocket of pus and they should be totally enucleated. The stumps of tonsils that have been clipped often contain pus and as in the case of the young woman already mentioned a pocket of pus may be pent in behind a cicatrix. From a fairly extensive experience let me assure you that the operation of removing foci of infection from the throat, nose or mouth is less serious in its possibilities than is the risk for the cardiopaths of a viridans infection. A compensated valve lesion will bear a tonsillectomy under ether

and if the operator be rapid and skilful no ill results need be apprehended.

As shown by these specimens the viridans streptococcus produces massive soft vegetations composed of vast numbers of bacteria covered over by fibrin. These thrombotic masses develop not only on the valve first implicated but are not infrequently found *postmortem* on the inner surface of the auricle or ventricle, constituting a mural endocarditis. Death may ensue from mechanical interference with the heart's action but more often it is the bacteriemia or an embolism that is responsible for the fatal issue. Indeed infarcts are very common in this form of endocarditis and if not discovered in the skin are frequent in the glomeruli of the kidneys giving rise to slight albuminuria and to erithrocytes in the urine. The discovery of these latter constitute confirmatory evidence of this type of endocarditis when associated with other suspicious data.

The onset of a viridans endocarditis is usually insidious and follows a sore throat or so-called grippe attack. Not infrequently the gradual decline in strength and weight, the slight daily rise of temperature and a slight dry cough give a suspicion of tuberculosis. As the disease progresses symptoms grow more pronounced and if bacteriemia is pronounced the pyrexia may run as high as 103° or 104° F. but in many cases the malady is so chronic and so slowly progressive that the body temperature may show but a degree or two elevation above normal. The heart may or may not display much change from the original findings, but in some instances new murmurs develop and reveal the involvement of other valves than the one primarily affected.

A man under my care for a few weeks last spring gave a history of a grippe attack in January with progressive though slight deterioration of his general health. The heart showed a mitral lesion with an exceedingly rough thrill and bruit but with very little increase in its area of dullness. While in bed he declared he felt well. He had almost no fever and with exception of a consciousness of lack of strength declared he felt well enough to return to his office. The pulse-rate however remained persistently from about 100° to 120° and systolic blood-pressure was below 100 mm. He was given autogenous vaccines cautiously but in the third week of his stay in the hospital he failed so appreciably that he was sent home. On his arrival after a night's journey he was mildly delirious or flighty as it was said and death occurred not many days thereafter. During my observation of this case I never de-

tected the slightest change in the heart tones or murmur.

Another young man whom I saw some eight or nine years ago gave a history of an acute tonsillitis in April which after a few days was thought recovered from. But he did not feel well and in June entered a hospital with fever and other symptoms which led one physician to diagnose typhoid fever. When I saw the man in consultation, I detected a slight mitral murmur and thrill and on getting the history of the previous tonsillitis I advised a blood culture in the belief that it would reveal endocarditis. The report, of a streptococcus infection was given by Rosenow who at that time had not become familiar with the viridans strain of this organism. This case progressed steadily and as the months went on the heart showed ever increasing damage. When at length a postmortem examination was made nearly all the valves showed the characteristic vegetations of this type of endocarditis.

It is not necessary to elaborate this subject further. We all have seen cases of this kind although to judge from my own experience of some years back I may venture the assertion that we have not always appreciated the true etiology and nature of the process going on in the heart. My desire at this time is to draw attention to the danger of focal infections and the instruction that may be gained from experimental infections in animals. In my special field of work, it is my lot to see the evil effects on the heart, and in this connection let me say these effects are not limited to endocarditis.

In 1909 I presented to the Association of American Physicians a paper on the connection between myocardial incompetence and chronic cholecystitis. While convinced by a considerable number of cases that the heart disorder could be referred to the gall bladder mischief I could not explain the connection satisfactorily, and perhaps I cannot now. But the thought is worthy of consideration that the streptococcus which according to Rosenow's investigations and experiments is responsible for the cholecystitis is the very organism that in many instances plays havoc with the heart. But however may be explained the effect of focal infections on the heart it is one that we can not afford to ignore. It is my conviction that as scientific research progresses it will be found that an increasing role in the etiology of chronic disease of the cardiovascular and renal system will be attributable to chronic focal infections within the upper respiratory tract and within the abdominal cavity. As stated in the opening of these remarks, the realization of the importance

and prevalence of focal infections will make us better diagnosticians and will enable us to prevent diseases which if permitted to develop, we are powerless to cure.

THE MOUTH AS A SOURCE OF SYSTEMIC INFECTION *

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That human saliva under certain conditions has a poisonous effect upon the animal body is not of recent origin. The oral cavity presents in point of temperature, moisture nutritive material, an almost perfect breeding place for micro-organisms pathogenic as well as non-pathogenic.

Miller has recorded that nearly all of the pathogenic and many non-pathogenic micro-organisms have been found in the human mouth. He has isolated and cultivated more than a hundred different species. Thus establishing the fact that this cavity is the receptacle and often the breeding ground of specific micro-organisms. His estimate of the number of micro-organisms in a certain very unclean mouth was 1,140,000,000.

Much importance has been attached to the relation of focal infections to systemic diseases.

The foci to which this paper wishes to call your attention, are the infective sources associated with the mouth and teeth. Many physicians and dentists have not learned to appreciate the relation of diseases of the mouth and teeth to general disease. Although the regional affections resulting from infections in and about the teeth are more often apparent than the general affection. C. H. Mayo¹, says, "It is only recently that we have begun to appreciate how common is the direct contamination of the blood by living organisms. Formerly only the more serious conditions of pyemia and septicemia were recognized as causes for living bacteria in the blood.

The blood may contain many living bacteria, such as pneumococci, streptococci and staphylococci, and various bacilli.

"The portals of entry of pyogenic micro-organisms into the body are numerous. While it is possible to gain entrance through wounds and abrasions of the skin and mucous membrane, it is apparently possible for some varieties to affect uninjured surfaces as well. Garre, applied a small poultice of the staphylococci to the healthy skin of his arm and produced a carbuncle. The major portion of pyogenic micro-organisms affecting the body, enter through the mouth. The tonsils with numerous open crypts drain into large lymph channels and while they are defended

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by numerous police in the form of wandering leucocytes these defenders, because of other demands or general temporary depression, may be off duty at a critical moment." "Result, is a focus of infection."

The sinuses of the head may be infected from the mouth, and in turn become new foci of infection. The glands under the jaw and the cervical chain of glands becoming infected, again become foci of new infection, so that one focus becomes the cause of another. Usually the bacterial origin of these foci is the same.

It has been demonstrated that tuberculous cervical adenitis may be caused by infection, gaining entrance through decayed and pulpless teeth.

It is not unusual to see children from the ages 3 to 10 with deciduous teeth a mass of decay, various cavities filled with putrifying food and pus exuding from alveolar abscesses.

The parents of these children believe and are sometimes told by those who should know better, that these teeth are only temporary, will soon come out and permanent teeth take their places. This is in part true, but this child is absorbing septic material during these years of waiting. He is suffering malnutrition from improper mastication and disturbed digestion.

They cannot masticate, so acquire the habit of bolting food. These early years are the foundation years for body and habit.

The education of children in the application of oral hygiene is a greater necessity than instruction in skin hygiene.

A recent statement of Sir Wm. Osler is authoritative as well as significant,—“There is not one single thing more important in the whole range of hygiene than hygiene of the mouth.”

Cleanliness and dental repair of the deciduous teeth is as essential to body comfort and health as is the proper care and repair of permanent teeth. We frequently see persons carrying filth in their mouths, that would never be tolerated on the skin. Mouths loaded with septic material from fermenting putrefying foodstuffs, pus pockets and abscesses are foci for systemic infections. Patients with oral sepsis expect to enjoy good health and wonder why they do not feel well, as they have no pain. When discomfort comes to them from gastric or other derangement, they are bombarded with drugs or sent to a health resort. The cleansing of the stomach and intestinal tract, assist in restoring normal balance. But many of these patients could be started on the road to recovery or possible cure if they had been instructed to go to the pump and *intelligently* use water and a tooth brush three times daily. The greater part

of the infections produced in or from the mouth are preventable. Wm. Hunter, says, “My clinical experience teaches me that if oral sepsis could be excluded, the channels by which septic infection gains access to the body might almost be ignored.”

“Frank Billings and W. E. Post² have made observations in about 300 cases at the Central Free Dispensary, Rush Medical College, Presbyterian Hospital and in private practice. The records show mouth lesions as caries of the teeth, pulpitis, pyorrhea alveolaris, alveolar abscess, periostitis of the jaw, and osteomyelitis of the jaw. The associated conditions apparently or actually resulting from these infectious processes may be divided into two classes, the regional affections and the general systemic affections. The former includes stomatitis, lymphadenitis, cervical abscess, infections of the maxillary sinus and the salivary glands, pharyngitis, bronchitis, gastritis and occasionally infections of the eye or thrombosis of the retinal vein, and infections of the ear. The general affections include the general intoxications expressed in the neuroses or neurasthenia, headaches, muscular rheumatism, neuritis, angioneuroses, anemia and such general infectious processes as bacteriemia, pyemia, acute and chronic infectious endocarditis, acute and chronic myocarditis, aneurysm, arthritis and nephritis. We should also remind ourselves that almost all cases of pernicious anemia give a history of a troublesome soreness of the mouth, which seems peculiar to the disease. This list is striking in its length and serious in its content.”

“Oral Sepsis,” the question of its cause, the writer here quotes, the very able work of J. F. and Stanley Colyer³, who say: “The term ‘Oral Sepsis’ is used not to denote a specific disease, but collectively to include all chronic inflammatory diseases about the mouth. With the onset and progress of the oral sepsis, there occurs an increase in the number and variety of the organisms commonly found in the mouth, especially those of the pyogenic class. Under the altered environment many of these organisms may undergo changes in virulence, either in the direction of exaltation or of attenuation, and thus some which were previously nonpathogenic may become pathogenic. The catarrhal and suppurative products which result from the bacterial activity undergo partial putrefactive changes in the mouth, and in this condition are constantly passing into the gastro-intestinal tract, together with enormous numbers of bacteria.

The pollution of the alimentary canal by this septic material leads to an alteration in the intestinal flora, and to the presence of abnormal

putrefactive products, and these together may produce certain changes in the economy of the body.

As the effect of oral sepsis is to throw a continuous and increasing strain upon body resistance it is not surprising that at times the defense breaks down, and that constitutional changes of a marked character follow.

Excluding other mouth diseases, the causes for oral sepsis usually arising in and about the teeth, are caries of the teeth, dento-alveolar and peridental abscesses and the different stages of pyorrhea alveolaris from gingivitis to exfoliation of the teeth.

Excluding the group of gingival infection, called pyorrhea alveolaris, next in importance as to frequency and virulence, stand the periapical infections, fistulous, and blind dento-alveolar abscess.

Decaying teeth play three distinct parts in the production of malnutrition—incubators for germs; places for toxins and ptomaines to be manufactured; and inefficient tools with which to work.

Sound teeth correctly placed but unclean, harbor and propagate multitudes of micro-organisms.

Diseased gums and decayed teeth, with the factors or agents that cause them, are frequently the ignored, the unsuspected, yet the underlying cause of malnutrition. Since malnutrition distributes its effects over the whole body, the mouth receives its share—its resistance to destructive processes is lowered.

Hunter⁴ states that the poisons from a septic mouth act sometimes more on one particular tissue—for example, blood (causing septicemia, pyemia, anemia), or on a nerve (producing severe mental and degenerative effects); sometimes the toxins act more on the organs of excretion—for example, the kidney (producing nephritis), sometimes on the skin (producing rashes) sometimes on the joints (producing so-called rheumatic swelling).

The following reports of Rosenow⁵ are of interest:

"Intravenous injection of streptococci of the proper grade of virulence may be followed by ulcer of stomach and duodenum. The ulceration is due to a localized infection and secondary digestion." The supposed relation between infected tonsils or gums and gastric ulcer may be due not to the swallowing of bacteria, as usually supposed, but to the entrance into the blood of streptococci of the proper virulence to produce a local infection in the wall of the stomach. The importance of focal infections as a point of en-

trance of bacteria in general is quite well recognized but the idea that the focus in addition serves as a place where bacteria can acquire new properties is not generally recognized, and needs to be emphasized."

The places in the human body where such conditions prevail and where special features are likely to be acquired are parts of infection such as in the tonsil, various sinuses, the appendix, and about the gums and teeth."

Hunter has found an infection by staphylococcal and streptococcal micro-organisms in gastric ulcer. The removal of the infective source, causes an immediate drop in temperature. He further says, "Remedies are important and essential, but the most important procedure is to remove the underlying source and this should be directed to the mouth as the infection comes from above and not from below."

It is well known that under some conditions a perfectly healthy person may be the carrier of pathogenic germs and thus may become the means of infecting some person who is not immune.

Scarlet fever became epidemic in the Public Schools of Chicago. It seemed impossible to stamp it out. Nothing positive was accomplished until it was recognized that possibly septic mouths and carious teeth of children were means of distribution. Elimination of some of the putrefaction, by compulsory oral hygiene, cleansing, filling, and extracting carious teeth, resulted in a return to normal conditions.

Flexner⁶ speaks of certain factors which contribute to determine infection. He says: "The period of childhood is especially characterized by a class of infections that depend upon imperfections in the anatomical barriers that are far more adequate in adult life. Many of the diseases that we associate with childhood—measles, scarlet fever, diphtheria, epidemic meningitis, and poliomyelitis—utilize the mucous membrane of the nose and throat to gain a foothold in the body because they are notably vulnerable. Their crypts or depressions afford a lodging place in which multiplication of the parasites can be effected, and the break in the epithelial covering constitutes the first breach in the external defense which the parasites seek to and successfully do enlarge."

This argument will apply with even greater force to the unclean mouth with decaying teeth. Septic remnants of teeth, congested gums and accumulations of filth.

Measles and the Mouth. J. R. R. Trist⁷ remarks that despite the number of deaths from measles—and of the more serious light in which

it has come to be regarded by medical men to-day, lay tradition for the most part looks upon measles as a trifling disorder. And one cannot but be struck by the simultaneous occurrence in every epidemic of cases presenting, on one hand, an illness of the most trifling character, and upon the other a condition placing the patient in grave danger of his life.

Necropsy always reveals one or more pathogenic micro-organisms not indeed, constant in variety, but notably the pneumococcus, the streptococcus and the staphylococcus pyogenes aureus. The disease is a condition in which certain tissues (notably mucous surfaces such as of the respiratory and alimentary tracts) are so affected as to render them unduly susceptible to the mischief which these organisms are able to bring about, and that herein lies the danger of the disease. The first point of entry of these micro-organisms is the mouth. Every case of measles with severe complications (whether of bronchopneumonia or diarrhea) has presented a mouth of exceeding foulness. Since adoption of routine cleansing the mouth, no case brought under treatment within twenty-four hours of the appearance of the rash has had a fatal termination.

Dr. W. S. Baer, of Johns Hopkins University, has made observations in over one hundred cases in which apical infection from blind alveolar abscesses, were considered the focal infection producing septic arthritis; in some of these cases, the infecting micro-organisms was isolated from cultures propagated from dental abscess pus.

Dr. T. B. Hartzell of the University of Minnesota, College of Dentistry, reports to me in a recent letter,—That in experimental injection of rabbits with pus from dental abscesses and pyorrhea pockets, they have observed endocarditis, myocarditis, miliary abscesses of the kidney and joint infections. All of these lesions were due to the streptococcus viridans.

It was my privilege, during a few days spent at the University of Minnesota, to see the results in a joint case, of autogenous vaccines obtained from a dental abscess. A partial report of this case is as follows:

In January, 1913, the patient had an attack of sore throat, followed by pains in the right knee and then the other joints of the body became involved in rapid succession; pain in first one joint and then in another. The joints became red and swollen and the patient had some fever.

A note, in the Hospital record⁸, August 5, 1913, states, "Patient is not helped by present treatment." On August 30, dental radiographs disclosed abscessed condition in the bone below

the roots of the first molar; also revealed resorption of the root ends of both first and second molars. Dr. H. J. Leonard, Research Assistant, extracted the first molar, smears and cultures were made from the root end and bottom of the alveolus. From the cultures, we secured a pure micrococcus catarrhalis which proved non-pathogenic. The second molar, which was also abscessed was extracted from which both smears and cultures were made. Smears revealed micrococci in great numbers. Culture produced a Gram positive hemolytic streptococcus from which a vaccine was prepared and the patient received an initial dose of twenty millions on December 14.

The patient became able to walk, both up and down stairs, one foot after the other, January 5. Prior to this time, he has advanced one foot and dragged the other after him. January 29 patient became able to raise his hands to his head and comb his hair for the first time in nine months, and is now able to raise his hands above his head sufficiently high to grasp the door casing. He is free from pain, except on extreme exertion.

It is probable that this infection resulted from both tonsil and alveolar process, but the successful recovery of the organism, responsible for the condition has unquestionably been made from the alveolar process and not the tonsil as the tonsils have been undisturbed.

The relation of pyorrhea alveolaris to systematic infections or the relation of systemic infection to pyorrhea is open to extended argument. Anything that will act as irritant to the gingival tissue, such as trauma, collections of food, sordes or calculi produce conditions that may result in pyorrhea. But you have noticed many mouths in which the tissues have been lacerated, return to normal condition. Many mouths with inflamed and hypertrophied gums, caries in, and calculi about the teeth show no indication of pyorrhea. Pyorrhea may be the result of malnutrition rather than the cause. Rhein¹⁰ says, "That the impairment of nutritive cells is found at its maximum in the ultimate capillaries." The gums and dental sockets are by far the best examples of ultimate capillaries."—Reducing tissue resistance through malnutrition, lowering resistance of mucous membrane and other tissues surrounding the teeth, constant bathing of these tissues with septic saliva will produce susceptible areas for the entrance of pus forming micro-organisms. The result pyorrhea alveolaris. In mouths infected with pyorrhea alveolaris or dental arthritis, the amount of pus swallowed, varies from a few drops to an ounce daily.

We frequently see patients so extensively affected with this condition that measurement of the tissue surfaces involved in pus formation would present an area of from three to five square inches. A surgeon would be concerned if this pus producing tissue was near a surgical wound.

Such an ulcer on the face or arm would be one of grave concern, but an ulcer of this kind would discharge its septic matter outward and not be absorbed. In the mouth often the discharge from an equal ulcerating surface is absorbed or swallowed, except what escapes in droplets to become a source of infection to others.

Hartzell makes a statement as follows:

"I believe that it is but a brief time when any general surgeon who is to operate on the abdomen, or interfere in any way with the system in abdominal surgery, will as soon think of operating when the hemoglobin is less than thirty per cent, as think of operating on a patient who has a septic mouth."

Accepting the conclusions that micro-organisms are evolved from a limited number of primitive forms, varying in strain, degree of virulence, and acquiring selective tendencies for certain tissue, it would be a reasonable suggestion that pathogenic micro-organisms of the mouth and teeth, through alimentary and oral absorption do act as toxic agents and are factors in faulty metabolism.

Some diagnosticians will make an exhaustive examination of all fluids and tissues of a patient, while a septic mouth is entirely overlooked.

The value of a thorough dental, chemical, bacterial, and radiographic examination of the mouth and jaws is unquestionable. Information from these procedures may disclose causative factors of disease, whose etiology in the past has been recorded as obscure.

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SUITS FOR MALPRACTICE IN OHIO ON THE INCREASE

In 1909 there were twenty-one applications for defense; in 1913, fifty-seven. In 1909 the Society paid attorneys \$3,000; in 1913, \$4,000 and expenses, \$952.58. In 1914 an appropriation of \$6,500 was made for that year, not an encouraging state of facts.

THE MEDICAL MANAGEMENT OF AN UNCOMPLICATED PEPTIC ULCER *

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Recent advances in our knowledge of diseases of the stomach and duodenum have proven that their successful treatment depends not only upon a correct diagnosis of the disease itself, but also upon an accurate and detailed knowledge of its possible complications and associated disorders. This is particularly true of gastric and duodenal ulcers. When such a diagnosis is made, and it is possible in the greater number of cases—thanks to the X-ray and other methods of recent investigation—the old rivalry between medicine and surgery no longer exists. Only in a very few border-line cases does a controversy exist. These border-line cases usually represent those of an unsound diagnosis. In general terms the medical management if conducted properly has proved itself not only worthy, but essential in the uncomplicated case.

The greater number of complications are definitely mechanical and as such require a mechanical means of management. If one studies carefully and makes an accurate diagnosis, the plan of management is then easily decided.

In the treatment of disease in general, we have learned to look to the etiology for a true scientific and practical basis. This to a great extent holds true in the management of a peptic ulcer. Although the factors in the cause of a peptic ulcer have not all been demonstrated to our full satisfaction, we have sufficient evidence based upon animal experimentation and clinical observation, to prove the essential elements.

By animal experimentation, ulcers of the stomach and duodenum have been definitely produced, first by actual mechanical traumatism to the mucosa, second, by bacterial infection introduced by mouth, third and probably most important of all, by bacteria of known virulence introduced into the circulating blood, also by artificial emboli, serums, corroding acids and alkalies and other toxic substances.

Clinically, gastric and duodenal ulcers have been produced in many very similar ways. They have been found to develop with an almost unmistakable certainty, following direct mechanical traumatism to the epigastric area, or to the gastric wall itself. They not infrequently follow infections of the tonsils, appendix and bowel, pelvis, and puerperal conditions, but are also found in close association with other forms of low grade septic foci including possibly the infection accompanying burns; with typhoid, syphilis and

*Read by title at the Sixty-third Session, Iowa State Medical Society, Sioux City, May 13-15, 1914.

tuberculosis; in embolism, thrombosis, arteriosclerosis and other allied conditions.

While these causes and associated conditions appear greatly different and somewhat conflicting in general, we have but to analyze them to find the factors common to all, upon which the development of an ulcer must depend. Accordingly we are able to find two elements present in practically every case. The first is a disturbance in the nutrition of a localized portion of the gastric or duodenal mucosa; the second is the presence of an active gastric juice.

The fact that under such clinical and experimental conditions, the ulcer practically never develops in any portion of the alimentary tract, save where the undiluted and unneutralized gastric secretions come in contact with the mucosa, proves that the digestibility of the gastric juice must be a great factor in the production and the perpetuation of an ulcer. The experimental fact that animals under similar conditions, but having the gastric juice neutralized at the time of the test were a great deal less likely to develop an ulcer is further confirmatory proof of the part played by the gastric juice. It is evident that if the disturbance of nutrition be sufficient to cause necrosis an ulcer surely would form. But if the nutrition be only partially interfered with, it is quite reasonable that an active gastric juice would overcome the enfeebled power of resistance on the part of the localized mucosa, and its digestion would result.

Naturally then, the stronger the digestive power, that is the higher the acidity, other elements being equal, the greater would be the tendency to ulcer formation, and likewise the greater would be the resistance to healing; vice versa, the lower the digestive power of the gastric juice, that is the lower the acidity, the less would be the tendency to ulcer formation. This is in direct relation to what we have clinically learned concerning the acidity in gastric and duodenal ulcer.

If what has been suggested concerning the part played by the local disturbance of nutrition in the etiology of peptic ulcer be correct, we then have in the treatment the possibility of a true prophylaxis, that is in particular the elimination of infections foci. And if the activity of the gastric juice be etiologically one of the prime factors in the origin and perpetuation of a peptic ulcer, one of the most important steps in its treatment is the elimination of the effects of this gastric secretion. There are two known methods of accomplishing this, the first is to prevent its formation to a greater or lesser extent by taking away all food and drink thereby giving the stomach complete physiological rest. The second is to keep

the acidity neutralized by the constant introduction of fresh neutralizing substance into the stomach. The first method, that is starvation, because of the disturbance of the general nutrition if continued for a period of more than a few days is decidedly impracticable. It is not an advantage in the beginning in a few cases in which the secretions are difficult to control. Nutrient enemas have proven of little avail. Hence the plan for the elimination of the effects of the peptic secretion, save for a possible few introductory days of starvation, must rest upon the neutralization of the gastric juice. However, one to three or four days of starvation in the beginning of the management is often an aid, because it gives the entire alimentary tract a temporary rest, and the patient after a starvation of two or three days usually begins a restricted system of diet with less reluctance.

In neutralizing the acidity, it is important that the neutralizing substance, whether it be food or powders, be given in small amounts at frequent intervals for the following reasons. First, by introducing small amounts only into the stomach, it is allowed to remain contracted, a factor which is in itself favorable to healing. Second, fresh substances taken into a nearly empty stomach whose walls are contracted come almost immediately into contact with the secreting mucosa and neutralize the juice as soon as it is formed. This prevents the possibility of the gastric juice accumulating to a greater or lesser extent at the periphery of a bolus of food, close to the secreting mucosa and being squeezed by the peristalsis around the food toward the pyloric antrum, where it in an incompletely neutralized state may irritate the ulcer bearing surface. Third, it prevents the concentration of the gastric secretions at the end of digestion. Fourth, by giving the food at frequent intervals in small amounts we are making the best possible use of it as a diluent and neutralizer of gastric juice.

Concerning the neutralizing agents one might select for this purpose, food deserves the first place. However, food alone in the majority of cases will fail to maintain complete neutralization, therefore, additional neutralizing agents are indicated. Of these, magnesium oxide, soda bicarbonate, and bismuth subnitrate in small but frequent doses fulfill all the requirements of neutralization. In addition magnesium oxide has a laxative effect, while bismuth subnitrate, because of its mild astringency, is constipating. By making up two separate powders, the one having for its principal part magnesia to which soda bicarbonate may be added, the other having for its principal part bismuth subnitrate to which soda may also be added, the patient has the pos-

sibility of alternating them in such a way that he may keep perfect control of the bowel movements. For instance, if the patient be taking first one dose of the magnesia and soda, then a dose of bismuth and soda, and the bowel movements become too loose, two doses of the bismuth and soda in succession could be given to one of the magnesia and soda. On the other hand, if the bowels become too inactive, two doses or more of the magnesia and soda could be given in succession to one of the bismuth and soda. The powders should be given midway between the feeding periods.

The absence of all stomach distress is good evidence that the acidity is being neutralized. Aspiration of the stomach contents occasionally just before a powder or a feeding, and testing the acidity, is positive proof as to whether or not the acidity is being neutralized. If free hydrochloric acid is present the frequency of feeding should be increased or the powders given in larger amounts.

While the neutralization of the acidity is one of the greatest essentials there are other details in the management of a peptic ulcer, which require careful attention. Two of the most prominent indications are to secure the greatest possible rest for the stomach, both mechanical and physiological, and to properly feed the patient.

The necessity for mechanical rest to any ulcerating surface is well known, therefore, its importance in dealing with a peptic ulcer needs no discussion. Mechanical activity as well as physiological activity can be reduced to the minimum only by placing the patient in bed at absolute rest. The most prominent clinicians require their patients to remain in bed for at least twenty-one days.

Relative rest to the stomach, throughout the entire course of management may be given by selecting a food of high caloric value, of liquid form, or in a very finely divided state. Such foods require the least possible effort on the part of the gastric digestion.

Concerning the feeding of the patient, a great deal has already been said. It has been pointed out that while two or three days of starvation may be indicated in the beginning, it must not be continued. If continued the nutrition suffers, which is the very thing we wish to avoid in the management of any chronic ulcer. Theoretically, the smaller and oftener the feedings are given, the better. However, in practice, hourly intervals of feeding, with a few exceptions are as frequent as is practical. The quantity of food given in the beginning should be very small and gradually increased as the ulcer shows a tendency to heal, until in the course of two or three weeks the pa-

tient no longer loses weight, but begins to show a slow and gradual gain. The scales and the appetite, to the average physician are worth more than a caloric computation. At no time should the stomach be overburdened with the quantity of food. If this should occur as sometimes happens, a day of rest should be given, and the feedings resumed in smaller quantities, then increased more gradually.

Of the foods which may be used, milk and cream in equal parts probably head the list. The milk should be fully one-half cream for two reasons; first, cream is of a high caloric value and represents a highly concentrated liquid food; second, it dilutes the milk and aids in the formation of a less dense casein curd. The milk should be taken slowly. A few patients so dislike milk as to make its use impracticable. Eggs, raw, soft-boiled or poached, cooked cereals—as cream of wheat, oatmeal, rice, farina, etc.—custards, gelatines, cream soups, broths, potato puree, pea soup and similar articles of food belong to the class of foods which should be allowed. Meats are of value in uniting with the acidity but they are believed to increase acid formation. Mashed potatoes, butter, milk toast, crackers and other such foods may be given later.

With the principals of managements in mind in caring for an average uncomplicated case, the following specific directions should from day to day be entered on the order sheet.

First, second to third or fourth day.

Absolute rest in bed.

No food or drink by mouth.

N. SS flushing at 6 A. M.

N. SS retention enema VIII ounces to X q i d.

In some cases where the bowel is irritable and retention difficult, the Murphy method may be used.

First day of feeding.

Stop all enemata.

Milk and cream in equal parts, one-half ounce each of the mixture every hour from 7 A. M. to 7 P. M.

Rx

Bismuth subnitrate i dram, every morning at 6 A. M. because of its coating over the ulcerating surface.

Rx

Calcined magnesia (magnesium oxide) aa gr. x
Soda bicarbonate.
Sig. At 7:30 A. M., 9:30, 11:30, 1:30 P. M.
3:30, 5:30, 7:30 daily.

Rx

Soda bicarbonate. aa gr. x
Bismuth subnitrate
Sig. at 8:30 A. M., 10:30, 12:30, 2:30 P. M.
4:30, 6:30 daily.

Second day, i ounce, equal parts milk and cream, every hour.

Third day, i and one-half ounce, equal parts milk and cream, every hour.

Fourth day, ii ounces, equal parts milk and cream, every hour.

Fifth day, ii and one-half ounces, equal parts milk and cream, every hour.

Sixth day, iii ounces, equal parts milk and cream, every hour, which should be continued every day for approximately the next eleven or twelve weeks.

Ninth day, egg, soft boiled or poached, at 7 P. M., and continued every day.

Tenth day, cereal at 7 A. M., iii ounces, prepared with cream and sugar, q d.

Eleventh day, egg at 11 A. M., q d.

Thirteenth day, cereal at 1 P. M. q d.

Fourteenth day, egg at 9 A. M., q d.

Fifteenth day, cereal at 3 P. M. q d.

Seventeenth day, potato soup, iii ounces, once every day.

At the end of twenty-one days management, patient is receiving milk and cream iii ounces, every hour, eggs iii q d, cereals iii q d, and potato soup once a day.

Three or four days later add or substitute a custard. Three or four days later cream soups may be added, or occasionally substituted for milk and cream.

Cream soups or cereals may be substituted for milk and cream from the first if milk is not well tolerated.

In the average case hourly feedings should be continued for three months, after which time the feedings may be given every two hours, but the quantity doubled and the powders likewise given every two hours at intervals midway between two feedings, and the amount correspondingly increased.

The two hour feedings should continue for at least three months. Then three meals per day consisting for the greater part of foods closely related to those mentioned above, and a glass of milk and cream should be taken at 10 A. M. and 3:30 P. M. daily until a year from the beginning of the management.

By this management, if carried out carefully and in full detail, practically every case of uncomplicated peptic ulcer will get well. The cases which are regarded as complicated are, first, those with stenosis of the pylorus; second, hour-glass or other deformations of stomach; third, perforation; fourth, adhesions; fifth, perigastric abscess; sixth, large hard and indurated ulcers which continue to bleed and therefore are readily recognized as such; seventh, those having indications of a carcinomatous degeneration. All these conditions will not heal medically, but are definitely surgical and in the hands of a competent diagnostician should be recognized as such. Other complications as perigastritis, severe hemorrhage, and continued secretion, accordingly demand additional attention. The associated disease as appendicitis, gall stones, tuberculosis, syphilis, gastroptosis and neurasthenia, must

also be corrected if one expects the patient to get completely well.

Practically all other cases will get well on such a medical management and are not surgical until a surgical complication may arise.

By this management, the old gastric distress soon subsides and the patient should be practically free from at least the old epigastric pain, because the pain of an uncomplicated ulcer is due to the acid of the gastric juice disturbing the nerves exposed in a true raw spot.

There may be other abdominal distress, as for instance a disturbance in the bowel by the magnesia. This must not be confused with gastric distress. If after a few days of such a careful management the patient continues to have pain, test out the stomach during the pain or just before a feeding, for free hydrochloric acid. If it is found to be neutralized and at the same time the stomach is known not to be overcrowded with food, we will find, in practically all cases, that we have overlooked something in the diagnosis. There is present, a previously unrecognized complication or we are mistaken and no ulcer exists. Such a management then is not only a safe and logical treatment in the uncomplicated case, but a valuable diagnostic test. However, in using this test one must take into consideration certain idiosyncrasies for milk and other foods, but when disturbed by these the type of distress usually changes. It is true that the patient who has once been the victim of gastric ulcer is prone to have it recur or others form. This is where many internists fail to obtain results. However, the patient during the course of management should be carefully instructed, that with the first indication of renewal of symptoms, first appearance of hyperchlorhydria, he is to begin at once the frequent feedings in smaller amounts with the powders between. If taken at this time the ulcer, if it actually be present, is usually small and heals readily so that the patient can gradually add to the diet in such a manner that he is within a few days again upon the usual diet. This is the instruction which is usually overlooked, but the vital one in keeping the ulcer healed.

As a prophylactic measure all hyperchlorhydria should be controlled. The most effective method is as outlined in the treatment of an ulcer. The majority yield to less rigid measures. However, in a hyperchlorhydria a possible reflex source must be searched.

Another means of prophylaxis is based upon the role played by low grade bacteria entering the blood stream from various pus foci. This has been alluded to in the etiology, and is an additional indication for the removal of all such foci (especially a chronic appendix) when such foci can be located.

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MEDICAL LEGISLATION

Every session of the Legislature brings with it the probability of some enactment relating to the practice of medicine in some of its relations; either the recognition of a new system of healing or of some older system under a new name, mainly for commercial reasons or for more rigid standardizing of medical education.

The practice of medicine in its psychological relation is so complex in its nature that it is not probable that all the world will be agreed on any single system of therapeutics any more than on religion, politics, business, or other fields of enterprise where opinions will always differ and where investigations and added experience bring new facts to bear in clearing up doubtful premises. The long history of medicine shows how slow and painful the progress has been, and how many cherished beliefs have been abandoned, sometimes with regret—for they seemed so good. The educated physician has been patient with honest beliefs, however strange and illogical, but when selfish schemes for commercial advantage are presented for legislative protection, then he prepares for resistance. It very naturally happens that various opinions will find expression among doctors when medical legislation is threatened, but we believe mature reflection will show that so far as the profession is concerned, the proposition may be reduced to the elementary terms of maintaining at least the present standards of medical education. There ought to be no restriction placed on the practice

of osteopathy, chiropractic, Christian science, or any other practice of therapeutics or healing, provided certain standards of medical education are required. In Iowa, after many years of effort, we have secured a reasonable and fairly satisfactory medical practice act, the whole intention and spirit of which is to furnish a foundation for any sect or therapeutics, and this is as it should be. No fair-minded person can question the reasonableness of this contention. If any system of practice seeks to evade this requirement, its advocates convict themselves of bad faith and commercialism. We can readily believe there are many who think the so-called regular system of practice is not the best, but a very few will hold that the practitioners of their favorite system should be ignorant of the scientific principles underlying the practice of the healing art.

It seems to us after many years of observation, that we should look carefully to the fundamental facts of a medical education—which should not in any way be weakened—and let the various “systems” take care of themselves. We think it safe to allow the public, particularly legislators, to form their own opinions of schools of medicine (or of the healing art) which seeks to evade reasonable requirements as to knowledge of anatomy, physiology, chemistry, and pathology; in other words an elementary knowledge of the human body in health and disease.

THE CARNEGIE FOUNDATION

An editorial in the Vermont Medical Monthly shows that the profession are not all of the same mind in relation to the merits of the Carnegie Foundation, while for the most part the medical profession is agreed that the Carnegie Foundation has accomplished great results in standardizing education, particularly medical education, and while all of the medical colleges having a sufficient endowment are endeavoring in every way to comply with the requirements laid down by the Carnegie Foundation, we still find that some of the weaker schools that have before them almost a hopeless struggle, are inclined to bitterly criticize the Foundation for the position it has taken in relation to medical education. We have also met a somewhat distinguished professor in a scientific industrial school, who goes as far as to say that a congressional investigation should be made of the workings of the Carnegie Foundation. The position this gentleman takes is that the institution itself should be the judge of its own work and of its standards of qualifications. The professor seems to have an opinion located

somewhere in his brain that the Carnegie Foundation will tend to demoralize educational matters, and if I was able to understand him right, by bringing college work to a certain dead-level of standardization, will destroy the initiative and therefore hinder scientific progress. It would appear that investigation into the objections offered, will show a special selfish and narrow objection based upon some loss in prestige, which the institution he represents, might suffer. However this may be, there is one thing of which we are certain, and that is that the great body of educators, and the great body of the medical profession are well satisfied with the workings of the Carnegie Foundation, and every aid will be rendered that is possible to be rendered, in carrying out the purpose of this very excellent institution for the standardizing of education and teaching.

STATE INDUSTRIAL COMPENSATION LAWS AND GENERAL HOSPITALS

There is apparently good reason to believe that the state compensation laws will have a certain influence upon general hospitals in their provisions for the care of the industrial workers who come under the influence of these compensation acts, particularly is this true in states where the so-called "open hospital" exists. The Massachusetts General Hospital has gone a step further in providing for an adjustment to meet the requirements anticipated from the adoption of laws relating to "occupational disease," which are foreshadowed by the investigations being carried on by some of the states, particularly Ohio, in regard to legislation covering this class of cases. The open hospitals above referred to, permit any physician or surgeon in good standing, to treat private patients in open or public wards at ward rates. The only prerogative that distinguishes a member of the attending staff, from the outside physician or surgeon in these hospitals, is the privilege of treating charity patients assigned to his division.

The difference between the staff physician and the outside physician, is that the staff physician or surgeon has certain official duties and responsibilities not possessed by the outsider. A paper by Dr. W. L. Babcock in the *Modern Hospital*, goes into this subject somewhat extensively, and states that the first effect noticed in general hospitals is an increased demand for minimum ward accommodations. This increased demand is due to the fact that employers of industrial labor and insurance corporations carrying employer's liability insurance, realize that hospital care and

treatment may shorten the duration of disability of the injured employe. Furthermore it is found that hospital care and treatment is more economical in the end, owing to the opportunities existing in hospitals for the use of X-ray, laboratory diagnosis, nursing, etc., and that the hospital records provide a greater legal safeguard in event of lawsuits arising during the adjustment of the degree of the employer's liability.

It is stated that in Michigan the increased demand for minimum hospital accommodations is at least 25 per cent, necessitating an increase in ward accommodations to meet this demand.

It is further stated that in certain states the application of increased or maximum ward rates as applied to hospital care of liability cases, has stimulated an increase in purely commercial hospital adventures, but it is fair to presume that the demands for minimum rate accommodations will show that no profits can be expected, and is liable to result in a deficit; that is, that the employers of industrial labor and insurance corporations carrying employer's liability insurance, will demand a price that will not make the care of these industrial cases profitable, in fact is quite likely to result in a loss. Therefore it appears that some provision will be required in the way of increasing hospital endowments, to meet the demand of these state compensation laws.

THE COCKROACH

It appears from the September number of the *American Journal of Tropical Diseases* that the mosquito, fly, and flea must divide honors with the cockroach as an enemy of mankind, and now demands our respectful attention. It is said that the cockroach has an ancient ancestry and is therefore entitled to an honorable consideration. Its filthy habits are something of a reproach and should be amended by the utter destruction of the race. It is found to carry on its legs colonies of *Bacillus Coli*, *Staphylococci*, and bacilli of various kinds, also that it is possible to cultivate from the cockroach intestinal tract, the bacillus of diphtheria, bacillus pyocyaneus, pneumococcus, and meningococcus in undiminished virulence. Moreover it carries in its stomach organisms which when taken into the stomach of white mice, rapidly develop cancer by irritation. Recently Dr. Wilson of the Mayo Clinic showed us some beautiful plates of cancer developed in mice stomachs by feeding them with cockroach, which shows us that if we have any tender feelings for the roach it should give way to the needs of the hour.

LIABILITY FOR THE BILL OF A MEDICAL PRACTITIONER CALLED WHEN PATIENT WAS IN AN UNCONSCIOUS CONDITION

We are reproducing the facts as they appear in the New York Medical Economist in relation to a claim that Dr. Schoenberg presented in a case to which he was called, where a patient was unconscious. It will be seen from the reading of this abstract what the law is in New York in relation to cases of this kind, and how the courts interpret it. While our statutes may be different from the New York statutes, yet the general principles involved would be the same, as the decision of the court is based upon the principles involved in cases of this kind.

"Dr. Schoenberg, well known to us as a man of many charities in his dealings with indigent sufferers, a devoted physician who has treated thousands of patients free of charge, represents the normal type of a conscientious practitioner. In hundreds of cases he, like the rest of us, has either sent no bill at all or was bilked out of the moderate amount charged. How he fared when, in one instance, he submitted a full-sized bill, his letter printed on another page of this issue plainly describes."

According to the Evening Post:

"Physicians testifying for the plaintiff said that the value of the service rendered was \$500, while experts for the defense placed the value at from \$10 to \$15, one saying that a fair charge would be from nothing up to a maximum of \$10."

"In rendering his decision, the judge said: 'This case falls within the rule that one who becomes ill and through unconsciousness or otherwise becomes incapable of acting or deciding for himself, is liable on the theory of an implied contract or promise. Mr. Bernheimer was in a comatose state when the call for a physician was made and remained during the plaintiff's treatment unconscious until his death.'"

"I am unable to draw a distinction as to the right of a recovery between a case where the doctor is called by a stranger or spectator and one where he proceeds to treat such a case without being asked to do so. The right to recover in both cases is the same, and the argument to support such right could be carried to great length."

"If a distinction must be made in the application of the rule as to the liability of persons becoming unconscious by accidental injury or otherwise in a large city having free ambulance service and free hospital treatment, and elsewhere, where there is no such free service and treatment, then there still remains the question whether in a large city such immediate attention was required, and it is a question of fact, involving consideration of the nature of the disease or of the accident, the time, and place where unconsciousness occurs, the time that must elapse before other or free medical treatment can be ob-

tained, and other considerations depending upon the circumstances in each case."

"The facts here show that immediate attention was necessary, as death occurred before the ambulance surgeon arrived, and within a very short time after the plaintiff arrived, and within a very short time after the plaintiff commenced his treatment, and it was proper and necessary that the doctor should attempt immediately to restore the patient to consciousness, and prolong life."

"Taking into consideration the easiness of the service, the occasion and circumstances under which they were performed, and all the evidence in the case, I adopt the value placed upon them by the defendant's experts and consider \$15 as the reasonable value thereof."

The decision also says of a physician:

"Duty requiring him to give his aid, and having given it, he may expect payment by reason of the promise created by law from the patient to do so, although he never asked for the aid or consented to it being given. In an emergency case, requiring immediate attention to save life, the physician when called, or when he volunteers, should not stop to inquire by whom he will be paid, or to make it known that he expects to be paid. It would be an inhuman act to do so, or to give that subject a thought, and while the question whether or not the services were intended to be gratuitous is one of fact, that plaintiff may rest his case upon an implied promise, and can recover unless it is shown either that there was no intention to charge or that the credit was extended to a third person."

MEDICAL DEFENSE IN CANADA

We herewith publish the plan adopted by the Canadian Association for the defense of its members. It will be seen that each member voluntarily pays \$3 in addition to his regular due, for the benefit of protection against malpractice suits. It must be borne in mind that our Canadian neighbors are much more conservative than we are and that suits for malpractice are much rarer in Canada than in the United States.

"Any member of the medical profession in good standing in Canada is eligible to membership. Applicants must be nominated and seconded by two members and must present the qualifications required for membership in the Canadian Medical Association. A local advisory committee of one or more members in each province may pass on the application for membership. The annual dues are \$3. Members are liable for dues until their resignations are accepted, and provision is made for the collection of dues by draft or other agencies. The president's report for 1913 shows an increase in membership of sixty during the past year. The solicitor's report shows that in Canada, as in this country,

most of the actions brought or threatened were dropped before they reached a hearing. The treasurer's report shows a membership of 812. The annual dues of \$3 per member give the organization an average annual income of \$2,500."

The general plan of this organization is, in the main, similar to that adopted by some of our state societies in providing for medical defense. The annual dues are larger, as most of our state associations have found it possible to provide entirely adequate defense for \$1.50 per member per year. The fact that such an association with a membership of approximately eight hundred has been able to carry on this work on a \$3 basis for twenty-four years is ample proof of the soundness of the plan and of the possibility of even the smaller state associations being able to furnish such protection to their members.

THE AVERAGE DURATION OF SICKNESS

It is recognized that much of our data regarding disease is practically valueless because the statistics recorded in different localities and for different purposes are not intelligently co-ordinated. The facts are on record, but the deductions which can be drawn only from carefully tabulated facts are too often lacking on account of the incompleteness of the records. One of the most promising features about the present public health situation is that the facts regarding disease are beginning to be subjected to the same careful scrutiny and mathematical analysis that have in previous years been given to life insurance tables and other tabulations of business facts. The Prudential Insurance Company of America has issued a reprint containing an address before the National Organization for Public Health Nursing, on "Practical Statistics of Public Health Nursing and Community Sickness Experience," by Mr. Frederick L. Hoffman. After commenting on the well-known lack of uniformity in recording the statistics of visiting nurses, of terminology and of completeness of records, Mr. Hoffman presents the statistics of visiting nurses' associations for Baltimore, Boston, Chicago and Philadelphia for 1912 and 1913. Tabulating these reports, he finds that the four associations in one year gave attention to 58,933 patients, making 429,620 calls, or an average of seven calls per patient. After discussing the general condition of hospitals and hospital treating throughout the country in an endeavor to establish the essentials of an analysis on this subject, Mr. Hoffman finds that the average duration of sickness, as far as can be determined from the fragmentary records, was eleven days for ages

under 44 and twenty-three days for ages over 45, and that the average nursing duration for patients over 45 is seventeen days for males and twenty-five days for females. Many other interesting facts and deductions are presented. Mr. Hoffman's painstaking study of a large mass of hospital reports and statistics is of distinct value, although the most important point emphasized is the meagerness and incompleteness of our data. (Journal A. M. A.)

BACTERIOLOGY OF CHOLECYSTITIS

In this number (February) of the Journal we have the pleasure of publishing a valuable paper on infections read by Dr. Babcock of Chicago before the Second District Medical Society. Dr. Babcock draws attention to the work of Dr. Rosenow, the value of which cannot be overestimated. In the Journal of A. M. A. for November 21 Dr. Rosenow publishes some experimental work of his own. In a previous paper he had shown that the intravenous injection of streptococci had produced cholecystitis and gall stones. In twenty-nine cases of cholecystitis at the Mayo Clinic, studied according to his method, in five cases the cultures were negative; in twenty-four cases with thickened gall bladders, streptococci were isolated in all but three, and in pure culture in ten. In sixteen cases streptococci were found in the wall when the contents were sterile or contained only the colon bacillus. Other observations were made in this series of cases which were equally important and interesting in showing how much we have yet to learn in relation to focal infections and how enlightening these investigations are in pointing the way to clear up obscure things.

OHIO STATE UNIVERSITY

The trustees of Ohio State University have performed a very curious act of diplomacy. It appears that the University took over the Starling Medical College and placed it on a Class A-Plus basis, and announced that the entrance requirements would be increased to two years of collegiate work.

After doing this very commendable piece of work, the trustees created a homeopathic school by taking over the Cleveland Pulte Medical College, a Class-C institute, not recognized by a number of states, then announced that only a high school education would be required for entrance to the homeopathic school. The first two years of both departments is to be practically the same; the fees in the College of Medicine will be \$150; in the homeopathic school \$125. What was in

the minds of the trustees as to the reason for this is not known; the reader is only left to infer.

The Ohio State Medical Journal in the December number, expresses the hope that the workmen's compensation act in that state will be so amended as to remove the maximum limit of medical and hospital fees in any case to \$200. The most recent calculation is to the effect that in only about one in five hundred cases would the expenses exceed \$200, but the Journal thinks "that the limit is exceeded in such a small percentage of cases, is in itself an argument for removal." In Iowa the limit is placed at \$100. This will no doubt prove a serious complication, in that there may be some difficulty in securing necessary hospital care in certain cases. It can easily be understood that if a seriously injured workman was brought to the hospital and the hospital knew in advance that the limit of expense would be \$100, including the doctor's fee, there might be a disposition on the part of the hospital to decline to receive such case, and a disposition on the part of the better class of surgeons to avoid taking up the treatment of it. This limit fee is only an evidence of the absurdities that are often introduced by legislative enactment in cases where the medical profession is concerned, without proper consultation.

It is to be sincerely hoped that the Committee on Medical Legislation will endeavor to secure an amendment to the act in such a way as to give the Commissioner discretionary power in increasing the maximum limit, when in his judgment it seems necessary. Another thing that should not be overlooked is the extension of the two weeks compensation to four or six weeks.

Dr. J. B. Cox of Belle Plaine died at his home, in Belle Plaine, Sunday, December 20, 1914. The doctor had finished his dinner and had gone out to the garage to let the water out of the radiator of his automobile and to fix the batteries so his car would be alright for the winter. Mrs. Cox thought he had been gone a long time and went out to see if anything was wrong and found him where he had dropped dead.

Dr. Cox was born in Pennsylvania in the year 1841, and came to Belle Plaine in the fall of 1865. He was married to Kizial Newkirk, September, 1865, a short time before coming to Belle Plaine.

Dr. Cox may be referred to as one of the pioneer doctors of the state, and had become well known in his section as a successful practitioner. The doctor had been in the service of the C. & N. W. Ry. Co. as surgeon for about thirty-five years, and was esteemed very highly by the men and officers of the Company.

It was our privilege to come in close contact with Dr. Cox's work, and we always found it to be very satisfactory, as the doctor from long experience had acquired unusual skill in treating emergency cases.

Dr. Cox suffered a grievous loss in the death of his son some years ago. The young Dr. Cox was a man of unusual promise, but he early contracted tuberculosis, and after a rather prolonged sickness died of that disease.

Dr. Cox leaves a wife and two sons, one Ralph Cox, of Belle Plaine, and LeRoy Cox, of Chicago, and one daughter, Mrs. Emil Zalesky, of Elkton, South Dakota.

BOOK REVIEWS

PROGRESSIVE MEDICINE

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, Edited by Hobart Amory Hare, M. D. and Leighton F. Appleman, M. D. Lea & Febiger, Philadelphia and New York. \$6 Per Annum.

This is Volume IV of the issue for 1914, and contains a digest of the literature on Diseases of the Digestive Tract and Allied Organs, Liver, Pancreas and Peritoneum by Edward H. Goodman, M. D., Associate Professor of Medicine, University of Pennsylvania; on Diseases of the Kidneys, by John Rose Bradford, M. D., Professor of Medicine in University College, London; on Genito-Urinary Diseases, by Charles W. Bonney, M. D., Assistant Demonstrator of Anatomy in Jefferson Medical College, Philadelphia.

Dr. Bonney calls attention again to the Functional Diagnosis by the phenolsulphonephthalien test for the kidneys. He states that the "test has become firmly established as a method of undoubted value for determining the functional capacity of the kidneys, and at the present time many urologists believe it to be the most trustworthy single method for ascertaining total renal function."

Dr. Bonney refers to the exhaustive studies of Nove-Josserand in relation to Hematuria Appendicitis.

In the acute form of appendicitis the hemorrhage comes on during or immediately after an attack. In chronic appendicitis the hematuria generally comes on before a recurrent attack. Hematuria thus associated with appendicitis may lead to a mistake of a renal disease, particularly calculus. Referring to hemorrhage from supra-pubic prostatectomy, Hugh Cabot recommends employing a suture introduced upon a small curved needle, carried down into the cavity from which the prostrate has been removed, and then brought out through the bladder wall close to the pubic bone, including all the muscular structures. This procedure will obviate the necessity of packing. Fryer found that out of 1,276 cases of hypertrophy of the prostrate that in 171 cases malig-

nant changes had taken place. It is stated by Bulkley that one in every seventy-five testes retained within the abdomen will undergo malignant changes, or about one in every four abnormally situated testicles that undergo malignant changes is found within the abdomen.

J. C. Bloodgood, M. D., of Johns Hopkins writes the digest including surgery of the extremities, shock, anesthesia, infections, fractures and dislocations, and tumors. Dr. Bloodgood relates a case of cerebral hemorrhage following an apparently complicated operation upon a patient with no demonstrable handicap, a complete left sided hemiplegia. This recalls a patient of our own, differing only that the operation was a supra-vaginal hysterectomy instead of a breast operation, and the hemiplegia was right-sided, and the patient did not recover, but died six weeks after the operation; anesthetic, ether, instead of nitrous oxide and oxygen. Dr. Bloodgood's digest of medical literature is very interesting and helpful reading. The cancer problem never leaves Dr. Bloodgood's mind, and he always says enlightening things. On "The Relation of Trauma to Malignant Tumors" he abstracts from Karl Hartman, Surgical Clinic of Stenthal in Stuttgart. It intimated "that one should be very skeptical before concluding that a sarcoma was the actual result of the trauma." In Germany the accident insurance experts accept the etiological relationship between trauma and some sarcomas, provided the four requirements of Theim are fulfilled.

1st. Proof of the trauma.

2nd. Trauma of moderate or severe degree.

3rd. The development of the tumor in the position of the trauma.

4th. That the duration of the first appearance of the tumor shall not be less than three weeks nor more than two years after the trauma.

The Section on Practical Therapeutics by H. R. M. Landis, M. D. The first subject is Alcohol. The value of alcohol in medicine is largely abstracted from Ewald who has a rather poor opinion of it as a therapeutic agent.

Under the head of "Diphtheria Carriers," a somewhat full abstract is made of an article by Albert of Iowa City in the Journal of the A. M. A.

The value of the serums receive considerable attention in this number of Progressive Medicine.

It is quite impossible to refer to more than a few of the good things abstracted, which may be read with profit by the general practitioner.

PRACTICAL THERAPEUTICS WITH SPECIAL REFERENCE TO THE APPLICATION OF REMEDIAL MEASURES TO DISEASE AND THEIR EMPLOYMENT UPON A RATIONAL BASIS

By Hobart Amory Hare, M. D., B. S. C., Professor of Therapeutics, Materia Medica, and Diagnosis, in the Jefferson Medical College of Philadelphia, New (15th) Edition Thoroughly Revised and Rewritten. Octavo

998 Pages With 144 Engravings and 7 Plates.

Cloth, \$4 Net. Lea & Febinger, Publishers, Philadelphia and New York, 1914.

The esteem in which Dr. Hare's book is held by the profession is abundantly shown by the fact that since the first edition was published in 1890 fifteen editions have been called for.

In Part One under the head of General Therapeutical Considerations, four therapeutical aphorisms (we think they should be termed) are stated. First; when called to guide a patient through an illness the physician should be constantly a watchman, and a therapist **only** when necessity arises; second, a good physician is one who, having pure drugs, knows how to use them, and when to use them, and equally important when not to use them; third, any drug which has the power to do good when rightly used, has the power to do harm when wrongly used; fourth, when a physician gives a drug and the patient improves, care should be taken not to ascribe all the good results to the remedy employed. Nature must be given credit for a large part of the improvement.

The book is logically divided into four parts. The first we have already referred to.

Part Second deals with drugs arranged in alphabetical order, giving a brief account of their physiological action, and a fuller discussion of their therapeutic effects, administration, etc. The newer remedies which have been fairly tried out receive full consideration, particularly salvarsan and tuberculins.

Part Third: Remedial measures other than drugs, including foods for the sick, contains much that is new.

Part Fourth: Refers to diseases. Here we have set before us the conditions requiring the use of drugs and remedies. One feels that a book like this furnishes all we need in the practice of medicine save the importance of a wider culture derived from reading books on the theory and practice, and on diagnosis.

A TEXT-BOOK OF PATHOLOGY FOR STUDENTS OF MEDICINE

By J. George Adami, M. A., M. D. LL. D., F. R. S., Professor of Pathology in McGill University, Montreal, and John McCrae, M. D., M. K., C. P. (London) Lecturer in Pathology and Clinical Medicine in McGill University, Formerly Professor of Pathology in the University of Vermont. Second Edition Enlarged and Thoroughly Revised. Octavo 878 Pages With 395 Engravings and 13 Colored Plates. Cloth, \$5 Net. Lea & Febinger, Publishers, Philadelphia and New York, 1914.

We commence the review of this work with the feeling that we have before us the work of a master mind of the highest culture. The profound knowledge of Professor Adami and Professor McCrae in all that relates to pathology leaves us nothing but to lay before the reader the general outline and ar-

rangement of the book. The introductory chapter relates to cells and tissues; the chemistry of cells, cell activity and multiplication, adaption which explains so much in relation to the doctrine of survival of the fittest, the influence of bacteria immunity to disease, cell differentiation and the hypothesis relating thereto, inheritance, racial characters, Mendel's Law, inheritance of acquired characters, etc.

Part I, in addition to the introductory chapter above referred to, includes chapters on the causes of disease, morbid and reactive processes, infections, retrogressive tissue changes and progressive tissue changes.

Part II considers Special and Systematic Pathology, embracing the cardiovascular system, respiratory system, nervous system, digestive system, urinary system, reproductive system, motor and tegmentary systems and an appendix including monstrosities and abnormalities.

We are particularly impressed by the division of diseases due to lower bacteria and diseases associated with the higher bacteria. In the first group are diseases due to the pyococci, to the streptococci, Malta fever, and those due to the Gram-negative diplococci. This group of diseases has been rather well worked out, but the second group of diseases "associated with higher bacteria" need much more study. The first, diseases produced by spore-bearing bacteria: Anthrax—this is a disease produced by an atrobic spore-bearing bacillus in man. According to Vaughn it differs from all other bacterial disease in that grown outside the body; the organism yields neither ectotoxins nor endotoxins of any virulence. The author's objection is that gaining entrance through the skin and growing locally induces a most intense local reaction producing a malignant carbuncle and other disasters, often an extensive and rapidly fatal pneumonia. "Toxins there must be to produce these violent effects." After the primary growth the bacilli are liable to be carried into the bloodvessels by leucocytes and in the blood multiply with great rapidity and produce a most extensive bacteremia.

Due to anaerobic spore-bearing bacilli is tetanus. Under the head of "diseases associated with higher bacteria" are also included diphtheria, Hodgkin's disease, tuberculosis and leprosy.

Diseases due to filterable viruses are divided into two groups: (1) The specific exanthemata, small-pox vaccina, chicken-pox and probably measles and roetheln; (2) rabies, acute poliomyelitis and yellow fever.

After considering morbid changes from the standpoint of the irritant, the author proceeds to the alterations produced in the tissues; thus we have a scholarly book written in the clearest English, covering subjects that lie at the foundation of medicine and surgery.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago, December, 1914.
Published Bi-Monthly by W. B. Saunders

Company, Philadelphia and London. Price, \$8 Per Annum.

The first fifteen pages contain illustrations of the new offices of Dr. Murphy and his staff. The building is situated on Calumet Avenue between Twenty-fifth and Twenty-sixth Street, next door to the Calumet Avenue entrance to Mercy Hospital.

Very few of us may afford such beautiful offices with all the facilities for work, but we can carry out the idea—in fact we must—if we hope to put ourselves in line for a fair share of modern medical work. If we cannot, we should not complain if those who are seeking relief, pass us by.

This number of Murphy's Clinics contains the usual number of interesting cases. In addition there is an interesting lecture by Dr. P. H. Kreuchner on "Auto-Sensitized Antogenous Vaccines," and a very interesting case by Dr. Murphy "Sarcoma of the Right Tibia." This case well illustrates what the highest skill in diagnosis and surgical skill in treatment, can do. Another case of great interest and value is one of "Multiple Metastatic Arthritides."

This number contains a very helpful index to all of the six numbers which make up Volume 3.

The Tonsils, Faucial, Lingual and Pharyngeal, With Some Account of the Posterior and Lateral Pharyngeal Nodules. By Harry A. Barnes, M. D., of Harvard Medical School. C. V. Mosby Company, St. Louis. Price, \$3.

This monograph is exceedingly well prepared, well illustrated, well printed. As at present the tonsils are in the limelight as avenues of entrance for so much pathology, it is well to have some well grounded study of tonsillar development, anatomy, and physiology, as well as pathology. Dr. Barnes here presents the whole subject in an attractive and interesting style. Descriptions of operations are complete. The complications and sequela are well cared for. An exceedingly timely book.

C. A. B.

PSYCHOLOGY AND MENTAL DISEASE

By C. B. Burr, M. D., Clinical Director of Oak Grove Hospital for Mental and Nervous Diseases of Flint, Michigan.

This hand book concerning psychology and disorders of the mind is the fourth edition by the author. It is revised and enlarged, embracing in a concise manner many of the mechanisms of mental phenomena, including both normal and abnormal reactions. The first chapter deals very aptly with the elementary conception of modern psychology with appropriate illustrations to make very lucid the author's ideas relative to the workings of the human brain. The treatise on "Symbolism in sanity and in insanity" is a wholly new addition, not being in previous editions, and it is quite unique as exemplifying the potency and significance of symbolic characters in mental operations. Here the author makes refer-

ence to the Freudian conception of sexual repression and mental conflicts as having influence upon the mind, forming in particular the basis of obsessions.

In the third chapter the author brings out the modern conceptions of insanity; its various causes and the present day classification of mental disorders, particular reference being made to syphilis as bearing upon diseases of the nervous and vascular systems. The classification here outlined is undoubtedly one of the most satisfactory in common use today. The fourth chapter is concerned, briefly yet comprehensively, with our modern methods of treatment and management of mental cases. Emphasis is given to massage and hydrotherapy in their influence upon certain bodily functions and morbid mental phenomena.

This treatise, though concise, is valuable for ready reference, especially for nurses, hospital attendants and medical students, also general practitioners, who do not desire to devote an extensive study to mental disease. The young student of general medicine will quite readily grasp the content of this hand book, thus assimilating material which may give him a clear general conception of insanity before entering upon the more exhaustive and intensive studies of mental phenomena and their reaction types.

M. N. Voldeng, M. D., Supt.

UNITED STATES PUBLIC HEALTH SERVICE

Leprosy; Its Treatment in the Philippine Islands by the Hypodermic Use of a Chaulmoogra Oil Mixture. By Victor G. Heiser; Surgeon United States Public Health Service, Director of Health for the Philippine Islands. Government Printing Office, Washington, D. C., 1914.

United States Public Health Service. Treatment of Syphilis. Comparison of the Number of Days Hospital Treatment Required for Patients Suffering With Syphilis, With and Without the Use of Salvarsan or Neosalvarsan. By W. G. Stimpson, Assistant Surgeon General. United States Public Health Service, Washington. Government Printing Office, 1914.

Soil Acidity on the Lining of Iowa Soils. Agricultural Experimental Station, Iowa State College of Agriculture, and the Mechanic Arts. Agronomy Section.

Report From Pathological Department and the Department of Clinical Psychiatry, Central Indiana Hospital for the Insane. 1911-1912 and 1912-1913, Indianapolis. Wm. B. Burford, State Printer, 1914.

The report indicates that this institution is doing a large amount of research work, and is well worth careful examination.

A MEDICAL DIRECTORY FOR NURSES

By Amy E. Pope, R. N., Published by G. P. Putnam's Sons, New York. Price, \$1.

This dictionary gives the essentials of dietetics, is a comprehensive guide book, gives full outlines of anatomy and physiology in addition to full and complete definitions. It is a very useful book, well prepared and easy to use.

COLUMBIA UNIVERSITY MEDICAL SCHOOL

At the monthly meeting of the trustees of Columbia University held November 2, it was announced that a gift of \$113,750 from William K. Vanderbilt had enabled the university to complete the purchase of a city block adjoining its grounds. The university began the acquisition of this property five years ago, with the view of removing the medical department to it. Its subsequent alliance with the Presbyterian Hospital, however led to a re-examination of the whole question as to the best site for the medical school, and it is probable that for a considerable time at least the latter will be allowed to remain in its present location in West Fifty-ninth Street. At present a portion of the newly acquired block is occupied by the temporary buildings of the Crocker cancer research laboratories. Prof. W. T. Longcope has been appointed a member of the board of managers of the George Crocker Special Research Fund, and Drs. A. P. Coll and John Leshure instructors in laryngology. It was also announced that an arrangement has been made with the Montefiore Hospital for Chronic Invalids by which the students of the medical department may receive clinical instruction at that institution; and such instruction is to be given by members of the hospital staff, who have been appointed to positions in the medical department of the university. The list is as follows: Dr. Siegfried Wachsmann, medical director of the hospital, professor of clinical medicine, and Drs. G. L. LaPorte, B. S. Oppenheimer, and S. P. Goodhart, assistant professors of clinical medicine.

TAXING HOSPITALS

Tax Commissioner, Samuel Lord, of Minneapolis, proposes to tax hospitals that are not doing real charity. He claims that many of the larger hospitals of Minneapolis, started out as charity institutions, have lost the charity character, and are now money-making enterprises. It is said that "it takes all kinds of people to make a world," and it may fairly be supposed that charitably inclined people must have an offset such as this tax commissioner. It is unfortunately too true that many hospitals lose their charity and even benevolent character, and degenerate into very poor business propositions. If a few more tax commissioners will agitate this matter, it will not be long before hospitals will be forced to open their books for the inspection of tax officers, which they decline to do now for the inspec-

tion of intending donors. Hypocrisy is a hateful vice, and when it is exercised to exploit the sick poor it is the worst of all human traits. Hospitals that are run for money, and avoid their just business obligations on the plea of their charity work, should be exposed. When the sheep can be separated from the goats, it will be easier to obtain money from the well-to-do and well-disposed for real charity.

—The Modern Hospital.

CARE REQUIRED IN APPLICATION OF HOT-WATER BOTTLES

[Williams vs. Pomona Valley Hospital Association (Cal.), 131 Pac. R. 888.]

The District Court of Appeals, Second District, California, reverses a judgment for the defendant and an order denying a new trial in this case, which was brought to recover on account of personal injuries occasioned by reason of alleged negligence on the defendant's part. The complaint alleged the plaintiff's entrance as a patient into the defendant's hospital, and that, while in the hospital and unconscious, a servant of the defendant placed hot water bags on or about the plaintiff's feet in such a careless and negligent manner that the plaintiff's feet were badly burned and scalded from which he suffered damages. The court says that certain instructions given to the jury could have had no other effect than to have told them that when the nurse applied the hot water bottle to the feet of the plaintiff, exercising ordinary care in the manner in which the same was placed, she was absolved from all further care or attention in relation to the patient as regards the effect produced by the application of the hot water bottle. The court was of the opinion that too restricted a construction was given to the averments of the complaint.

The word "manner," in the connection under consideration means the way of doing anything. The use of the term "manner" in the complaint should be taken to comprehend the way the act was performed, having in view the condition of the patient and the character of the remedies applied. To place a hot water bottle of such high temperature on the feet of an unconscious man as would burn or scald his feet cannot be said to be a proper way of doing such a thing; and a pleading which refers to the manner as having produced the injury should be given such a liberal construction as would work substantial justice between the parties. To give it the construction adopted, that the subsequent effect of the application in producing burns and scalds was not to be considered eliminated from the consideration of the jury one of the vital and principal questions presented.

The duty of the nurse, and assuming that a nurse must only exercise the ordinary care which a trained and skilled nurse would be required to use, is a continuous duty. Dealing, as she was, with an unconscious patient, unable to care for himself, it was her duty to observe the effect on the patient of the

remedy as much as it was to test its temperature in the first instance. The power of resistance, the condition of the patient, must of necessity have much to do with the application of remedies, either by a physician or a nurse, and this duty could be observed only by constant and unremitting care and attention, which is just as obligatory on the nurse as is the duty of applying the remedy directed by the physician in charge.

STATE MEDICAL DEFENSE PROPOSED FOR GEORGIA

The success which has attended the medical defense of members of various state societies, is leading one after another of the states into adopting this plan. The Journal of the Medical Association of Georgia in considering this matter calls the attention of its readers to the fact that no state has discontinued its defense act, and in only one state has it been attempted, and in this state failed. The editor states that the number of cases sued has differed widely in different states, from none up to 100 or more, and that the yearly expenses vary greatly in different states, from nothing in some states to above \$6,000 in others. In some states every suit is defended regardless of the merits of the case, while in others the committee of the Society determines which suits are meritorious and which are not.

MEDICAL DEFENSE IN TEXAS

The Journal of the Texas State Medical Association for December, 1914 contains the information that the by-laws of the Association have been amended to provide for medical defense of its members. The vote in the House of Delegates was, in favor 58, against 12. The state annual dues are fixed at \$3, \$1 of which goes to the defense fund.

BEQUEST TO THE WESTERN RESERVE UNIVERSITY

The will of the late Liberty E. Holden contains a legacy of nearly \$1,000,000 to the Medical School of Western Reserve University, to be known as the Albert Fairchild Holden Foundation.

DEPARTMENT OF SURGERY OF THE COLLEGE OF MEDICINE, UNIVERSITY OF ILLINOIS

News of the Medical Schools.—Dr. D. A. K. Steele has been appointed senior dean and head of the department of surgery in the College of Medicine of the University of Illinois. It was largely through Doctor Steele's efforts that the College of Physicians and Surgeons became an integral part of the university as its permanent medical department. Doctor Steele's appointment is a well merited tribute to his successful efforts in supporting and upbuilding the college for more than thirty years.

"MOTHERHOOD WITHOUT FEAR"

A few months ago McClure's magazine announced to the prospective mothers of the country that a remarkable discovery had been made by which the pangs of childbirth were to be forever abolished. The announcement was made in the form of an article by two women, apparently of no medical training. The remarkable discovery was the long-discredited scopolamin-morphin analgesia, first suggested in 1902. This sensational article was taken advantage of by a pharmaceutic firm for free advertising of a nostrum, based on a similar formula; a number of physicians previously unknown brought themselves into newspaper prominence with naive statements regarding their ability in the use of the method and with reports of their success; a host of "sob-writers" and sisters of the pen, whose work is tested by their ability to wring anguish from sympathetic hearts, filled columns of the daily press and magazines with pseudo-scientific rubbish.

And now, when this sensation has about died out, we are supplied with another. This one is furnished by Mr. Vance Thompson, playwright and novelist; the medium is the *Cosmopolitan* magazine. In an editor's note the article describing this new method of eliminating the pains of labor is introduced as follows:

"The all-absorbing events of the last days of July prevented the spread of the most joyful message ever sent from the scientist's laboratory to woman. It was that henceforth she will bear children not in pain and terror but in gladness. Paris knew of it; the French Academy of Medicine had accepted it, but it got no further. Mr. Thompson was then in the city and to him has fallen the wonderful opportunity of carrying the good news to the men and women of America. Here it is.

"Attention must be called to the fact that the practice here described has nothing to do with the morphin-scopolamin treatment originating some years ago in Freiburg and which recently has had some measure of exploitation under the popular name of 'twilight sleep.' This requires special and very expert care on the part of the physician, and has the further disadvantage of drugging the patient into a state of partial insensibility. It can be administered properly only in hospitals, and its use in general practice should, and probably will, be forbidden by law. But detoxicated morphin, without the slightest danger to the mother, causes neither check nor delay, does not interfere with the necessary rhythmic muscular contractions, and makes painless childbirth a scientific certainty."

As a composition, The Journal of the American Medical Association regards Mr. Thompson's article as fairly comparable with that of the two ladies who reintroduced 'twilight sleep' to American women; but for sentimental rot, for pseudoscientific rubbish, and for downright 'sob-writing' Mr. Vance Thompson must be given the palm.

As to the facts, in one place it is stated:

"I do not write of this discovery as being in an experimental stage. It has been accepted by the

French Academy of Medicine—the date was the third week in July. Surgeons, gynecologists, chemists, doctors of all degrees have examined, tested, approved. For once scientific men have been unanimous."

There is no excuse for such false statements; even Mr. Thompson could easily have learned the truth.

What are the facts? What is this "detoxicated morphin" which, we are told, eliminates the pains of childbirth? Last July, Ribemont-Dessaignes reported to the Academy of Medicine of Paris a number of cases of childbirth in which he had used, for the relief of pain, a preparation "discovered" by a chemist named Paulin. The nature of the preparation was not disclosed to the academy. September 1, presumably as a result of the suggestion of Paulin, a request came to the academy from the Minister of War asking the opinion of the academy as to the advisability of using this remedy, presented under the name "Tocanalgin" and "Antalgine," in military hospitals as a substitute for morphin. By unanimous vote the academy declared that, the formula and composition of these medicines being unknown, it could give no opinion. Since it was stated, however, that the new drug was produced by the action of enzymes on morphin, the academy appointed a committee to investigate oxydi-morphin, a chemical substance which it was known could be produced by the action of enzymes on morphine. Under the direction of the committee, two chemists examined samples of the new preparation obtained directly from the discoverer. The examination showed that these samples were variable, and that they did not contain any oxydimorphin. The only active ingredient found by these chemists was morphin hydrochlorid, and this in quantities varying from 0.05 to 4 per cent. The conclusions of these two chemists were later emphasized by Bertrand who, after careful chemical and biologic tests of samples submitted to him, found that the solid residue was exclusively formed of hydrochlorid of morphin, and that it was fully as toxic and dangerous as morphin, as might be expected; the symptoms of poisoning were exactly the same as those of morphin hydrochlorid, and death occurred after the same interval. A dose of the preparation would give about $\frac{1}{2}$ grain of morphin. In other words, judging from the reports which appeared in the *Journal de pharmacie et de chimie* for November 16, and the *Bulletin de l'Académie de médecine* from July 21 to November 17, this so-called "detoxicated morphin" is essentially a solution of morphin in ampules. It will kill just as quickly as morphin, it will relieve pain just as quickly as morphin—because it is morphin. Naturally, the Academy of Medicine of Paris has not accepted the preparation.

We presume it is useless to protest against this shameless exploitation of the fears of prospective mothers of the country. But if magazines must have articles on this subject, let them at least confine themselves to the facts. The article in the *Cosmopolitan* is cruel, sensational and a disgrace even to yellow journalism.

We are publishing the Treasurer's report of the Committee of American Physicians for the Relief of the Belgian Profession. There are several committees at work in collecting money for the aid of the profession in Belgium, which in many places have lost not only all their possessions, but have lost their practice, on account the war and the destruction of their country, and are suffering from hardship in consequence. Contributions from the American profession through some of these committees is to be highly commended.

Report of the Treasurer of the Committee of American Physicians for the Relief of the Belgian Profession. For the week ending December 26, 1914.

Contributions:

Union Trust Company.....	Banking Facilities
Sterrett & Acheson, Attorneys..	Professional Service
F. O.	\$ 25.00
F. H. M.....	100.00
F. F. S.....	100.00
S. P.	25.00
G. C. S.....	5.00
S. A.	20.00
E. W.	25.00
B. L.	10.00
T. E. S.....	20.00
T. L. S.....	25.00
R. S. E.....	10.00
M. W. R.....	10.00
W. A. P.....	25.00
M. C. S.....	5.00
<hr/>	
Total	\$405.00
Disbursements	None
F. F. Simpson, M. D.,	
Treasurer.	

Report of the Treasurer of the Committee of American Physicians for the Relief of the Belgian Profession. For the week ending January 2, 1915.

Contributions:

H. F. W.....	\$ 25.00
B. C.	2.50
D. W. C.....	25.00
V. P. G.....	25.00
Mrs. J. B. M.....	100.00
E. F. B.....	5.00
C. W. N.....	25.00
In Memory H. H. C.....	10.00
S. J. M.....	15.00
D. B.	25.00
<hr/>	
Total	\$257.50
Disbursements	None
Contributions previously re-	
ported	\$405.00
<hr/>	
Grand Total	\$662.50
<hr/>	
F. F. Simpson, M. D.,	
Treasurer.	

CONGRESS PASSES ANTI-NARCOTIC BILL

The Harrison bill (H. R. 6282) for the suppression of illicit trade in habit-forming drugs passed the House December 10, after having been before Congress for over two years. The first and second Harrison bills regulating the manufacture and importation of habit-forming drugs passed both houses at a previous session. The third measure, to regulate the interstate sale of opium and cocain preparations, passed both houses last summer, but on account of conflicting amendments was referred to a conference committee. This committee agreed on a report which was adopted by the Senate. When the report came up in the House in the last hours of the recent session, the question of no quorum was unfortunately raised, and the House adjourned without action. The bill consequently went over until the present session. The object of the bill is to restrict the sale of habit-forming drugs to persons desiring them for legitimate purposes. The difficulty has been so to word the measure as to prevent illicit traffic in these drugs without interfering with their legitimate use by physicians and others. As the bill passed the House in June, 1913, it exempted from the operation of the law the dispensing or distribution of habit-forming drugs by physicians, provided the physician in each case was personally attendant on such patient. This exemption was modified in the Senate to require that the physician should have been employed for the particular patient receiving such drug and that the drug should be dispensed in good faith. The bill as agreed on by the conference committee and as finally passed exempts the dispensing or distribution by physicians of drugs containing opium or coca leaves or any of their derivatives, provided the physician keeps a record of all such drugs dispensed or distributed, showing the amount dispensed, the date, the name and the address of the patient. If, however, the physician is in personal attendance on the patient, such a record is unnecessary. Physicians and all others buying drug preparations containing opium or cocain must order them on forms to be issued by the Commission of Internal Revenue. But physicians' prescriptions are specifically exempt. As has been frequently pointed out, it is not in any sense a regulatory measure, and the amount of good that it will or can accomplish will depend entirely on the local police regulations and the methods adopted by states and cities to enforce such regulations. But after years of long, patient effort and many revisions, the bill as passed is in the judgment of The Journal of the American Medical Association probably the best that can be formulated under existing conditions.

PROPAGANDA FOR REFORM

Serobacterins.—While objection may be made to the sensitized living bacteria used by Besredka because there is always an uncertainty as to the action of living bacteria in the animal body, such danger cannot be attributed to the "sero-bacterins" be-

cause they contain dead bacteria, and so far as known, can do no more harm than other dead bacteria—in fact it is claimed that they are preferable to other vaccines because the toxic products of the bacteria, other than the immunizing properties, have been largely removed. It must be said, however, that these preparations are still in the experimental stage. In great part, careful clinical observations will decide that the serobacterins are really superior to ordinary vaccines (Jour. A. M. A., Oct. 3, 1914, p. 1223).

Lactic Acid Ferments.—There is a large amount of literature to the effect that the *Bacillus bulgaricus* hinders putrefaction in the intestinal canal. While there may be some question as to a greater success in securing the implantation of this bacillus by administering it in "liquid cultures" the report of the Council on Pharmacy and Chemistry shows that such a culture is likely to reach the consumer in a more active state than one in the form of tablets (Jour. A. M. A., Oct. 3, 1914, p. 1223).

Agar-Agar-Biscuits.—To make agar-agar biscuits it is only necessary to add finely powered agar-agar to the flour used in making the biscuit. The amount should be, if possible sufficient so that a dose of 5 Gm. will be contained in each biscuit (Jour. A. M. A., Oct. 3, 1914, p. 1224).

Action of Sodium Cacodylate.—Containing its arsenic in organic combination and in the pentavalent state, which becomes therapeutically active only as it is reduced to the trivalent inorganic state, sodium cacodylate is so slightly toxic that therapeutic doses do not give rise to toxic symptoms. There is nothing in the literature to show that sodium cacodylate has a special action on the eye and blindness from its administration need not be feared (Jour. A. M. A., Oct. 3, 1914, p. 1223).

Glycothymoline Refused Recognition.—A report of the Council on Pharmacy and Chemistry cites Glycothymoline as a typical illustration of a "patent medicine" advertised to the public through the doctor. Different formulas have been ascribed to Glycothymoline by its promoters from time to time—but whatever the exact composition of this secret nostrum may be, it has been definitely shown that it is but a weak antiseptic solution. Nevertheless, the advertising circulars recommend the use of Glycothymoline in such serious conditions as diphtheria and ophthalmia of the newborn. Glycothymoline is in conflict with Rules 1 and 4 of the Council on Pharmacy and Chemistry, because of its indefinite composition and the method of advertising it to the public. It is in conflict with Rules 10, 6 and 8, in that it is an unscientific, shot-gun mixture sold under unwarranted therapeutic claims and under a misleading name (Jour. A. M. A., Oct. 10, 1914, p. 1313).

Glycothymoline not Harmless.—Glycothymoline is a mild antiseptic practically devoid of germicidal powder and when used as a simple mouth wash is practically harmless. However, the recommendations to the public for its use in serious diseases make it a menace to the public health—and physi-

cians are responsible for its widespread use (Jour. A. M. A., Oct. 10, 1914, p. 1304).

Declared Misbranded.—The Federal authorities have secured convictions under the Food and Drugs Act against the following "patent" medicines: Nurito, West Baden Sprudel Water, Radam's Microbe Killer, Dr. Hilton's Specific No. 3, Dr. Sullivan's Sure Solvent, Russell's White Drops. With the exception of the first two the products were declared misbranded chiefly because false and fraudulent therapeutic claims were made for them. Urito was declared misbranded because false statements in regard to the ingredients were made and West Baden Sprudel Water because it was not a natural water as claimed (Jour. A. M. A., Oct. 17, 1914, p. 1408 and 1409).

Phenolax Wafers.—These are tablets said to contain phenolphthalein 1 gr., "aromatics" and sugar enough to make five grains. It is a question what purpose the "aromatics" and sugar serve, perhaps these are to mislead the unthinking to believe that this combination has some mysterious value over phenolphthalein itself (Jour. A. M. A., Oct. 17, 1914, p. 1410).

Papine (Battle and Co.).—This is a simple aqueous alcoholic solution of morphin, 1 grain to each ounce. It is exploited under the utterly unwarranted claim that it does not nauseate, constipate nor create a habit (Jour. A. M. A., Oct. 17, 1914, p. 1411).

Celerina and Aletris Cordial (Rio Chemical Co.).—Celerina is a shot-gun mixture said to contain, in addition to 42 per cent of alcohol, kola, viburnum, celery, cypripedium, xanthoxylum and aromatics. Aletris Cordial is said to contain 28 per cent alcohol (more than is found in wine) besides three obsolete and valueless drugs, aletris, helonias and scrophularia. Whatever virtue there is in Celerina and Aletris Cordial is derived from the alcohol (Jour. A. M. A., Oct. 17, 1914, p. 1411).

Use of Paraffin Oil.—While it is recognized that cancer may be caused by chronic irritation, the paraffin oil used medicinally is bland and non-irritating and there is no reason to suppose that its continued use would cause cancer. A good quality of oil may be obtained by prescribing **Paraffinum Liquidum** or **Petrolatum Liquidum Grave** (Jour. A. M. A., Oct. 17, 1914, p. 1411).

Hemo.—The Thompson Malted Food Company, Waukesha, Wis., which sells Hemo, Malted Milk and Malted Beef Peptone, offers its stock to physicians with promises of large profits. Hemo is advertised as "the food that builds up weak stomachs" and is stated to contain "the iron of spinach, the juices of prime beef, the tonic properties of selected malt in powdered form and the richest sweet milk." Hemo is "promoted" by absurdly extravagant claims and pseudo-scientific nonsense. Disregarding the question whether or not this a stock jobbing scheme or whether the purchase of the stock is a good investment, physicians who buy the stock and prescribe the firm's output are not giving their patients a square deal (Jour. A. M. A., Oct. 24, 1914, p. 1494).

Ginseng.—Despite the fact that the peculiar man-

shaped root of ginseng has no medicinal value so far as science can determine, the Koreans for decades paid their tribute to China in ginseng. In China it is reported as a cure for all ills that human flesh is heir to and has a special reputation as an aphrodisiac. Perhaps there is no better illustration of the virtues of aphrodisiacs in general than the fact that the Chinese are quite sure of the marvelous efficacy of ginseng though no evidence of its virtues can be obtained in the West (Jour. A. M. A., Oct. 24, 1914, p. 1486).

FOOT-AND-MOUTH DISEASE

In view of the recent outbreak of foot-and-mouth disease in the Mississippi Valley, the most extensive as yet in the United States, an account, taken from The Journal of the American Medical Association, of the principal features of the disease may be of interest. It is an acute, highly infectious disease, which occurs chiefly in cattle, sheep, goats and swine, though other animals such as the horse and dog, as well as certain wild animals are attacked also, and it may effect human beings. In animals it is characterized especially by an eruption in the mouth and on the feet, in some species more in the mouth, in others more on the feet. In cattle the incubation period averages from three to five days, whereupon a moderate fever with loss of appetite and other general symptoms sets in. In two or three days small blisters appear on the lining of the mouth, and now the fever usually subsides. At the same time one or more feet may show tenderness and swelling of the skin, soon blisters form here also, and the animal goes lame. In the mouth the blisters may reach half an inch or more in diameter, but usually they are smaller; the contents, at first clear, become turbid, and as the covering bursts, small painful raw spots are produced which either heal quite promptly or turn into ulcers that heal more slowly. Usually the milk is altered and reduced in quantity; blisters and ulcers may form on the udder. There is marked loss of weight, as the animals do not eat because of the pain. In this, the ordinary form, in which the death-rate is very small except among the young, the symptoms fade away in from ten to twenty days or so, except when local infections delay recovery, but there are also severe forms with extensive infection which frequently end in sudden death. In such severe cases ulcers are found in the stomach and intestines. In sheep and swine, lesions of the feet predominate.

The cause of the disease is present in the contents of the vesicles, the discharges from the ulcers, the saliva, the milk, the urine and feces, but as a rule not after the tenth day. It is stated that animals having had the disease may carry the virus for months. Any susceptible species may infect any other susceptible species. Infection occurs not only through direct contact, but also indirectly, as the virus retains its virulence for some little time, at least outside the body. Contamination of fodder, of stalls, of feeding and drinking troughs, of milk and milk products and of the hands and clothes of drovers serves to spread

the disease, which often travels over wide stretches of country with remarkable rapidity, as shown by the present outbreak. As from 25 to 50 per cent of the cattle exposed to infection may become sick, there results great loss from fall in the production of milk, from reduction of vitality and fecundity, and from deaths as well as on account of the measures adopted to stamp out the disease.

The immunity produced by an attack seems to be feeble, as animals are said to suffer sometimes more than one attack within a short time. So far no practical method of protective inoculation has been developed.

Our knowledge of the cause of foot-and-mouth disease is limited to the fact that it concerns a filterable virus, as yet invisible and incultivable. It was in 1897 that Löffler and Frosch made their classical experiment, showing that the disease is caused by a living virus that passes filters which do not permit bacteria to go through, an experiment that has served as a model for all the subsequent work on the many other forms of filterable virus recognized since then. Foot-and-mouth virus may remain active for months if kept cool and moist, but is destroyed rapidly by drying, by heat at 60 C. (140 F.) and above, by formaldehyd and by carbolic acid. The wide range of virulence of this virus among animal species has been indicated, and as stated, the disease may affect human beings, especially children, being transmitted by milk from diseased cows (experimentally verified) and by butter and cheese made from such milk as well as through wounds and in other ways. While the course usually is favorable, an epidemic described by Siegel had a mortality of 8 per cent. The manifestations are fever, digestive disturbances and eruption on the lips and sometimes on the skin. Where there is danger of contamination of the milk with the foot-and-mouth virus, thorough pasteurization of all milk and milk products is doubly indicated.

DEPARTMENT OF HEALTH BILL ABANDONED

According to Washington correspondents, President Wilson has announced a legislative program for the remainder of his administration. Greatly to the regret of his many supporters and admirers in the medical profession, he has not considered it advisable to include in his program a bill for the creation of a national Department of Health. This measure, endorsed by the Democratic party at Baltimore, is one of fourteen propositions thrown overboard. If reports are correct, the President for the remainder of his term will urge the passage of only four measures: a bill regulating the development of water power in navigable streams; a bill providing for the leasing of mines and other resources on the public domain; a bill providing for eventual independence of the Philippines, and a bill providing for the purchase of merchant vessels. The proposition for the creation of a National Department of Health is the last subject but one on the list of fourteen discarded

measures. Mr. Wilson, during his term of office, has secured much important legislation. He has also guided the nation through the intricacies of the Mexican and Japanese situations and the present European war muddle. These might well be regarded as a sufficient accomplishment for two years. In seeking to limit his activities during the rest of his term to a few measures which can be passed, rather than to a large number of doubtful propositions, Mr. Wilson is acting wisely. The only difference of opinion which can arise is the relative importance of the four subjects selected as compared with those rejected. The development of water power and the control of natural resources are in line with the conservation campaign which has received support throughout the country. The purchase of merchant vessels is an emergency measure brought about by the present European war. The independence of the Philippines is a moral rather than a political question. The selection of these four subjects does not necessarily indicate that they are, in the minds of the administration, of paramount importance, but rather that, in proportion to their importance, they are, perhaps, more fully supported by public opinion. Yet it is a strange paradox that the conservation of water power and mineral wealth should be placed before the conservation of human life. Perhaps if we had no federal health machinery of any sort, the situation might be regarded as more urgent. As a matter of fact, our Public Health Service has developed into a most efficient bureau, and is doing excellent work. It is not a question, however, of the value of the present organization, but whether a better one might not be obtained. Yet the very efficiency of the Public Health Service may have been one of the factors which led Mr. Wilson to abandon, for the present, efforts for a National Department of Health. Whatever may have been the reasons, it is to be regretted that this measure has been temporarily given up by the administration. Its endorsement by the Democratic party and its support by Mr. Wilson aroused strong hopes that it would be taken up as an administration measure and pushed to practical consummation. Apparently, such expectations must be temporarily abandoned. It is to be hoped, says *The Journal of the American Medical Association*, that before the next presidential campaign the popular demand for advanced public health legislation will be so strong as to lead all of the national parties to include an endorsement of this measure in their platforms. In the meantime public education must continue, with a view to ultimate rather than immediate results.

UNWRAPPED BREAD

The increasing displacement in this country of home-made bread by the bakery loaf has been accompanied by a growing attention to the sanitary aspects of the baking industry. Attempts, in large part successful, have been made to improve the conditions under which bread is prepared in city bakeries. It

is evident, however, that the conditions of distribution as well as of preparation need to be safeguarded. We have already commented on the possible dangers of bacterial contamination of bread through handling by typhoid or other disease carriers. Recent studies have added to the evidence we surveyed at that time. In a paper by Jacobs, LeClerc and Mason of the United States Department of Agriculture it is shown that the surface of wrapped bread purchased from retail markets is more nearly free from organisms than unwrapped bread obtained at the same time from the same sources; *Bacillus coli* was found more than eight times as frequently in the unwrapped loaves. This result is substantially the same as that obtained by Katherine Howell on which our previous discussion of this subject was based. Curiously enough, these later writers make no reference to Miss Howell's work. With respect to the effect of wrapping on the palatability and general quality of bread, the conclusions of Jacobs, LeClerc and Mason are generally favorable. They state that, while bread as it comes from the oven has a sterile crust, it may become contaminated with organisms while cooling in the laboratory and therefore should be wrapped as soon as it is sufficiently cooled, a period which they fix at approximately three hours. In their discussion, however, these writers do not sufficiently discriminate between the sanitary importance of organisms such as molds or harmless air bacteria, and definite pathogenic microbes that may be smeared on the bread from infected hands. Protection of the bread from contact with fingers or mouth spray is much more essential than protection from ordinary dust. The fact that "bread which was cooled only one hour before wrapping retained heat and moisture enough to favor the growth of certain organisms" does not necessarily mean that a higher degree of safety is obtained if wrapping is delayed for two hours longer, and the authors would probably not wish such a conclusion to be drawn from their work. One practical point brought out in this paper deserves especial mention, namely, that unwrapped bread becomes stale noticeably sooner than wrapped bread and that the gain to the baker by wrapping undoubtedly more than balances the extra cost. Of great economic importance—when we consider bread, economy is important—is the reduction in weight of the wrapped loaf as compared with the unwrapped. A conference with a number of bakers showed that the cost of wrapping is from 4 to 5 per cent. On the other hand, the reduction in weight of wrapped loaves varied from 7.5 to 14 per cent. The consumer can be expected to bear at least half the cost of wrapping, or 3 per cent, but he should not be compelled to pay all of it, including a profit. A similar, but less comprehensive, study made by the Research Laboratory of the New York City Health Department has also been reported recently, and this also confirms the results of Miss Howell respecting the bacterial superiority of wrapped loaves. We may consider it as established, says *The Journal of the American Medical Association*, that the distribution of unwrapped bread offers manifold possi-

bilities of infection, and that the use of wrapped bread not only offers some safeguard against disease transmission, but entails no economical disadvantage.

TYPHOID EPIDEMIC

A typhoid epidemic of ninety-three cases in the city of Hanford, Cal., is reported by W. A. Sawyer, Berkeley, Cal., in a recent issue of *The Journal of the American Medical Association*. All the cases could be traced to a church dinner, and the infection came from a typhoid carrier among those who prepared and served the food, a woman who did not know that she had had typhoid. The history is interesting. The infection was conveyed in a dish of Spanish spaghetti. Only those partaking of it were primarily affected and only one secondary case was reported, but this was apparently not positively traced to this source. Sawyer sums up his conclusions as follows: "The source of infection in the ninety-three cases of typhoid fever in the Hanford epidemic was a typhoid carrier who prepared food served at a public dinner. The vehicle of the infection was a large pan of Spanish spaghetti prepared by the carrier. This dish was baked after it had been infected, but this baking was shown by laboratory experiments to have developed the bacteria instead of sterilizing the food. Certain customary methods of cooking are thus shown to be inadequate as a protection against infection. The incubation period in the majority of the cases in this epidemic of typhoid fever proved to be shorter than the time usually regarded as the minimum. The first case developed three days after infection. More cases showed their first definite symptoms six days after the infected food was eaten than on any other one day. The ways in which a carrier may transmit infection are so varied and so numerous that attempts at the control of mere channels of infection will not offer sufficient protection. Those who were suspicious of the raw salad at the dinner in Hanford and ate the freshly baked spaghetti turned from a safe dish to one which was heavily infected. The best protection against carriers will come through thorough investigation of the source of infection in every case of typhoid fever. When carriers are discovered, they can be advised and controlled. Until there are more trained epidemiologists on a full-time basis among state and local health officials, the danger from carriers will not be noticeably diminished, and the individual will find in antityphoid vaccine his best protection against infection from carriers."

EXTRACTS FROM THE REPORT ON PROCTOLOGIC LITERATURE FROM MARCH, 1913 TO MARCH, 1914

By Samuel T. Earle, M. D., of Baltimore, Md.

In Samuel T. Earle's review of Proctologic Literature from March, 1913 to March, 1914, he quotes from the following authors giving the salient points from each of their papers:

Percival P. Cole, M. B., Ch. B. F. R. C. S., England (*British Medical Journal*, Vol. 1, 1913, page 431) "The Intramural Spread of Rectal Carcinoma."

Robert A. Bachman, M. D., Newport, R. I., Surgeon U. S. Navy. (*Journal of American Medical Association*, Vol. L., 1913, page 1154) "A New Method for Hemorrhoids."

Jerome M. Lynch, M. D., New York City. (*The American Journal of Obstetrics and Diseases of Children*, February, 1914, page 322) "Blocking the Sympathetic by a Method other than Spinal Anesthesia to prevent shock in the combined operation for Cancer of the Rectum, or Recto-Sigmoidal Junction, with some Improvements and Modifications of Technic."

Charles R. Robins, M. D., Richmond, Va. (*The Old Dominion Journal of Medicine and Surgery*, May, 1913, Vol. XVI., page 236) "Sliding the Rectum in the Cure of Various Defects."

Granville S. Hanes, M. D., Louisville, Ky. (*Kentucky Medical Journal* Vol. XI, June 15, 1913, page 516) "Anal Pruritus Treated by Operation; Report of Case."

Frederick H. Williams, M. D., Boston, Mass. (*New York Medical Journal* Vol. XCVII, 1913, page 875) "Electricity in Rectal Diseases. A Neglected Resource in their Treatment."

T. F. Riggs, M. D., Pierre, S. D. (*The St. Paul Medical Journal*, Vol. XV, page 461) "Fistula-in-Ano! Its Rational and Successful Treatment."

P. Lockhart Mummery, F. R. C. S., England. (*The Lancet* Vol. II, 1913, page 72) "Operation and After-Treatment of Fistula-in-Ano."

Harvey B. Stone, M. D., Baltimore, Md. *Annals of Surgery*, Vol. LVIII 1913, page 647) "Immediate and Late Results of the Whitehead Operation for Hemorrhoids."

Daniel Fisk Jones, M. D., Boston, Mass. (*Boston Medical and Surgical Journal*, Vol. CLXIX, page 707) "Carcinoma of the Rectum."

James W. Heslop, M. B., M. R. C. S. Newcastle-on-Tyne, England (*The British Medical Journal*, February 28, 1914, page 476) "Dissemination in Carcinoma of the Rectum."

COCCYODYNIA: A NEW METHOD OF TREATMENT BY INJECTIONS OF ALCOHOL

By Frank C. Yeomans, A. B., M. D., of New York City, N. Y.

The DIAGNOSIS is established by a thorough examination, both general and local. Local examination is made by inserting the index finger into the rectum and palpating the coccyx between it and the thumb outside. The soft parts intervening between the coccyx and anus are now compressed and the point of maximum tenderness is thus located, usually just beyond the tip of the coccyx. Proctoscopy rules out rectitis.

The prognosis hitherto has been better in the traumatic cases than in those of frank neuralgia or

neuritis. The writer confidently predicts that the treatment proposed will render the latter equally amenable to treatment.

The writer proposes a treatment based on the suggestion of Schlosser in 1907, of injecting 70 to 80 per cent alcohol in sensory nerves, thereby causing their degeneration as practiced with marked success in trifacial neuralgia.

The technique is simple and can be carried out in the office under strict aseptic precautions. The patient with empty bowel is placed on a table in the Sims' position and the skin about the coccyx painted with tincture of iodine. A 2 c.c., Luer or similar syringe is filled with 80 per cent alcohol and armed with a two inch needle. The right index finger is now inserted into the rectum and the point of maximum tenderness is determined by counter pressure with the thumb outside. Maintaining the finger in the rectum to guard against puncture and as a guide, the needle is introduced through the mid-line directly to the painful spot, and 10 to 20 minims of solution are injected slowly.

The needle is withdrawn and its puncture sealed with collodion. The pain from the injection lasts a few minutes and is followed by a dull ache which may last a day or two. From three to five injections are usually required at intervals of about one week.

The writer reports seven cases, all women, treated from two months to four years ago. They required three, four or five injections each at intervals of about one week. Relief was prompt and complete and all the patients have remained well.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Hypodermic Tablets of Emetine Hydrochloride, Mulford.—Each tablet contains emetine hydrochloride, 0.016 Gm. H. K. Mulford Co., Philadelphia (Jour. A. M. A., Oct. 3, 1914, p. 1,204).

Acne Vaccine.—Marketed in boxes of 4 syringes containing 25, 50, 100 and 200 million killed bacilli. Also in boxes of 2 syringes containing 50 and 200 million killed bacilli; boxes of 6 ampoules containing 10, 25, 50, 100, 200 and 500 million killed bacilli, with a syringe; and boxes of 2 ampoules containing 50 and 200 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

Bacillus Coli Communis Vaccine.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also boxes of 2 syringes containing 100 and 500 million killed bacilli and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

Bacillus Pertussis Vaccine.—Marketed in boxes of 4 syringes containing 25, 50, 100 and 200 million

killed bacilli. Also boxes of 2 syringes containing 50 and 200 million killed bacilli; boxes of 6 ampoules containing 25, 50, 100, 200, 300 and 500 million killed bacilli, with a syringe; and boxes of 2 ampoules containing 50 and 200 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

Pyocyaneus Vaccine.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also in boxes of 2 syringes containing 100 and 500 million killed bacilli. E. R. Squibb and Sons, New York.

Gonococcus Vaccine.—Marketed in boxes of 4 syringes containing 100, 200 and 500 million killed gonococci. Also in boxes of 2 syringes containing 100 and 500 million killed gonococci; boxes of 6 ampoules containing 50, 100, 150, 350, 500 and 1,000 million killed gonococci, with a syringe; and boxes of 2 ampoules containing 100 and 500 million killed gonococci, with a syringe. E. R. Squibb and Sons, New York. (Jour. A. M. A., Oct. 3, 1914, p. 1,204).

Meningococcus Vaccine, Immunizing.—Marketed in boxes of 3 syringes containing 100, 500 and 1,000 million killed meningococci. E. R. Squibb and Sons, New York.

Meningococcus Vaccine, Curative.—Marketed in boxes of 4 syringes containing 100, 200, 400 and 500 million killed meningococci. Also in boxes of 2 syringes containing 100 and 500 million killed meningococci; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed meningococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed meningococci, with a syringe. E. R. Squibb and Sons, New York.

Pneumococcus Vaccine.—Marketed in boxes of 4 syringes containing respectively 100, 200, 400 and 500 million killed pneumococci; boxes of 2 syringes containing respectively 100 and 500 million killed pneumococci; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed pneumococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed pneumococci, with a syringe. E. R. Squibb and Sons, New York.

Staphylo-Acne Vaccine.—Marketed in boxes of 4 syringes containing 100 million killed staphylococci and 25 million killed acne bacilli, 200 million killed staphylococci and 50 million acne bacilli, 400 million killed staphylococci and 100 million killed acne bacilli, and 500 million killed staphylococci and 200 million killed acne bacilli; boxes of 2 syringes containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli; boxes of 2 ampoules containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli, with a syringe. E. R. Squibb and Sons, New York.

Staphylococcus Vaccine.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed staphylococci; also in boxes of 2 syringes containing 100 and 500 million killed staphylococci; boxes of 6 ampoules containing 100, 250, 500, 500,

1,000 and 2,000 million killed staphylococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed staphylococci, with a syringe. E. R. Squibb and Sons, New York.

Streptococcus Vaccine.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed streptococci; also in boxes of 2 syringes containing 100 and 500 million killed streptococci; boxes of 2 ampoules containing 100 and 500 million killed streptococci, with a syringe. E. R. Squibb and Sons, New York.

Typhoid Vaccine, Curative.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also in boxes of 2 syringes containing 100 and 500 million killed bacilli; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed bacilli, with a syringe and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

Typhoid Vaccine, Immunizing.—Marketed in boxes of 3 syringes containing 500, 1,000 and 1,000 million killed bacilli. E. R. Squibb and Sons, New York.

Small-pox (Variola) Vaccine (Glycerinated).—Each dose in separate aseptic sealed glass tube, with bulb and needles. Boxes of 5 and boxes of 10 tubes. E. R. Squibb and Sons, New York.

Diphtheria Antitoxin.—Curative doses, marketed in syringes containing 2,000, 3,000, 4,000, 5,000, 7,500 and 10,000 units. E. R. Squibb and Sons, New York.

Antidysenteric Serum.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

Antipneumococcic Serum, Polyvalent.—Marketed in syringes containing 20 Cc. Also marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

Antistreptococcic Serum, Polyvalent.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

Antistreptococcic Serum, Scarletinal, Polyvalent.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

Typho-Serobacterin, Mulford, Immunizing.—Each package contains 3 syringes of Typho-Serobacterin graduated as follows: First dose, 1,000 million killed sensitized typhoid bacilli; Second dose, 2,000 million killed sensitized typhoid bacilli; Third dose, 2,000 million killed sensitized typhoid bacilli. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Oct. 10, 1914, p. 1295).

Cymar.—A neutral, non-glucosidal substance obtained from *Apocynum cannabinum* and *Apocynum androsaefolium*. Cymar resembles amorphous strophanthin in its actions and is about equal to it in activity. It is more active when injected intravenously or intramuscularly than when given orally. Its uses are much like those of digitalis, but it is best suited in the form of Cymar Tablets, 1/200 Gr. and Ampoules Cymar Solution containing 1/60 Gr. cymar. The Bayer Co., New York (Jour. A. M. A., Oct. 17, 1914, p. 1393).

Maltine Malt Soup Extract.—Maltine containing potassium carbonate, 1.1 Gm. to each 100 Gm. and al-

cohol, 3.88 per cent. Maltine Co., Brooklyn, N. Y. (Jour. A. M. A., Oct. 24, 1914, p. 1479).

Acne Vaccine.—Marketed in packages of six syringes each containing 12 million bacteria. Greeley Laboratories, Inc., Boston.

Acne Vaccine.—Marketed in packages of four syringes containing, respectively, 5, 10, 20 and 40 million killed acne bacilli. Schieffelin and Co., New York.

Colon Vaccine.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

Colon Vaccine.—Marketed in packages of two vials each containing, respectively, 50, 100, 200 and 400 million killed bacteria. Schieffelin and Co., New York.

Pyocyaneus Vaccine.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

Pyocyano-Bacterin.—Marketed in packages of four syringes containing, respectively, 50, 100, 200 and 400 million killed bacteria. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Oct. 24, 1914, p. 1479).

Antimeningococcus Serum (Antimeningitis Serum).—Marketed in one aseptic glass cylinder containing 30 Cc. with special sterile needle and stylet. Also in one 20 Cc. vial. Schieffelin and Co., New York.

Gonococcus Vaccine.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

Gonococcus Vaccine, Polyvalent.—Marketed in separate syringe and packages containing, respectively, 50, 100, 200, 400 and 1,200 million killed bacteria. Schieffelin and Co., New York.

Pneumococcus Vaccine.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

Staphylococcus Albus Vaccine.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

Staphylococcus Aureus Vaccine.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

Strepto-Bacterin (Human) Polyvalent.—Marketed in packages of six ampoules each containing 100 million killed bacteria; also in packages of six ampoules each containing 200 million killed bacteria. The Abbott Alkaloidal Co., Chicago.

Streptococcus Vaccine.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

Scarlet Fever Treatment.—Marketed in packages of four vials containing respectively 50, 100, 200 and 400 million killed bacteria.

Typhoid Bacillus Vaccine.—Marketed in packages of six syringes, each containing 1,000 million bacteria; also in packages of six syringes containing respectively 100, 200, 400, 600, 800 and 1,000 million bacteria. Greeley Laboratories, Inc., Boston (Jour. A. M. A., Oct. 31, 1914, p. 1577).

Since publication of New and Non-official Remedies, 1914 and of the supplement to New and Non-official Remedies, 1914 (July 1, 1914) the following articles have been accepted for inclusion with "N. N. R.":

(Continued from January issue)

Typhoid Combined Vaccine (Prophylactic), vials and syringes containing three doses, 500 million killed typhoid bacilli and 250 million killed paratyphoid bacilli A and 250 million killed paratyphoid bacilli B, while the second and third dose each contain 1,000 million killed typhoid bacilli and 500 million each of killed paratyphoid bacilli A and B.

E. R. Squibb and Sons:

Acne Vaccine, boxes of 4 syringes containing 25, 50, 100 and 200 million killed bacilli, boxes of 2 syringes containing 50 and 200 million killed bacilli, boxes of 6 ampoules containing 10, 25, 50, 100, 200 and 500 million killed bacilli, with syringes, and boxes of 3 ampoules containing 50 and 200 million killed bacilli with a syringe.

Bacillus Coli Communis Vaccine, boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also boxes of 2 syringes containing 100 and 500 million killed bacilli and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe. Box of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed bacilli, with a syringe.

Bacillus Pertussis Vaccine, boxes of 4 syringes containing 25, 50, 100 and 200 million killed bacilli. Also boxes of 2 syringes containing 50 and 200 million killed bacilli. Boxes of 6 ampoules containing 25, 50, 100, 200, 300 and 500 million killed bacilli, with a syringe and boxes of 2 ampoules containing 50 and 200 million killed bacilli, with a syringe.

Diphtheria Antotoxin, syringes containing 2,000, 3,000, 4,000, 5,000, 7,500 and 10,000 units.

Gonococcus Vaccine, 4 syringes containing 100, 200, 350 and 500 million killed gonococci, boxes of 2 syringes containing 100 and 500 million killed gonococci. Boxes of 6 ampoules containing 50, 100, 150, 350, 500 and 1,000 million killed gonococci, with a syringe and boxes of 2 ampoules containing 100 and 500 million killed gonococci, with a syringe.

Meningococcus Vaccine, Curative, boxes of 4 syringes containing 100, 200, 400 and 500 million killed meningococcus. Also boxes of 2 syringes containing 100 and 500 million killed meningococci. Boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed meningococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed meningococci, with a syringe.

Meningococcus Vaccine, Immunizing, boxes of 3 syringes containing 100, 500 and 1,000 million killed meningococci.

Pneumococcus Vaccine, boxes of 4 syringes containing respectively 100, 200, 400 and 500 million killed pneumococci, boxes of 2 syringes containing respectively 100 and 500 million killed pneumococci, boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed pneumococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed pneumococci, with a syringe.

Pyocyaneus Vaccine, boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also in boxes of 2 syringes containing 100 and 500 million killed bacilli, box of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed bacilli, with a syringe.

Smallpox (Variola) Vaccine (Glycerinated), each dose in separate aseptic sealed glass tube, with bulb and needles. Boxes of 5 and 10 tubes.

Staphylo-Acne Vaccine, boxes of 4 syringes containing 100 million killed staphylococci and 25 million killed acne bacilli, 200 million killed staphylococci and 50 million killed acne bacilli, 400 million killed staphylococci and 100 million killed acne bacilli, and 500 million killed staphylococci and 200 million killed acne bacilli; boxes of 2 syringes containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli, boxes of 2 ampoules containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli with a syringe. Box of 6 ampoules containing 100 million killed staphylococci and 20 million killed acne bacilli, 100 million killed staphylococci and 20 million killed acne bacilli, 500 million killed staphylococci and 50 million killed acne bacilli, 500 million killed staphylococci and 50 million killed acne bacilli, 1,000 million killed staphylococci and 100 million killed acne bacilli and 1,000 million killed staphylococci and 100 million killed acne bacilli, with a syringe.

Staphylococcus Vaccine, boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed staphylococci. Also boxes of 2 syringes containing 100 and 500 million killed staphylococci. Boxes containing 6 ampoules containing 100, 250, 500, 500, 1,000 and 2,000 million killed staphylococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed staphylococci with a syringe.

Streptococcus Vaccine, boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed streptococci. Also boxes of 2 syringes containing 100 and 500 million killed streptococci. Boxes of 2 ampoules containing 100 and 500 million killed streptococci, with a syringe. Boxes of 6 ampoules containing 100, 100, 500, 500, 1,000, 1,000 million killed streptococci, with a syringe.

Typhoid Vaccine, Curative, boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also boxes of 2 syringes containing 100 and 500 million killed bacilli. Boxes of 6 ampoules containing 200, 200, 500, 500, 1,000 and 1,000 million killed bacilli, with a syringe and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe.

Typhoid Vaccine, Immunizing, boxes of 3 syringes containing 500, 1,000 and 1,000 million killed bacilli.

Standard Chemical Co.:

Radium Bromide.

Waukesha Health Products Co.:

Hepco Flour, Hepco Dodgers, Hepco Grits.

SOME ASPECTS OF EXPERIMENTAL CANCER RESEARCH *

By H. Gideon Wells, Ph. D., M. D.

Director of Medical Research, University of Chicago

The objects of this demonstration were to show that the neoplasms which occur in mice are in all fundamental respects quite the same as the neoplasms which occur in man, to present to the society a collection of spontaneous tumors which have been observed in the postmortem examination of 9,000 mice dying natural deaths in the breeding experiments of Miss Maud Slye of the Otho S. A. Sprague Memorial Institute, and to discuss some of the results Miss Slye has obtained in her extensive studies on the influence of heredity on the incidence of tumors in mice.

Since the first successful experimental inoculations of cancer in series of rats and mice the question has been repeatedly raised as to whether one is justified in considering the cancer of these animals as of the same nature as human cancer, and in transferring results obtained from their study under laboratory conditions to the problems of human pathology. The history of experimental cancer research was briefly discussed, from the pioneer work of Leo Loeb and Jensen to more recent enterprises, and photographs illustrating the neoplasms usually employed in experimental transplantations were shown. This was followed by a series of microphotographs illustrating the existence in mice of various sorts of spontaneous tumors identical with corresponding neoplasms in man. These included several types of spindle celled and round celled sarcoma, both primary and metastatic, primary endotheliomas of the ovary, squamous cell carcinoma of the subcutaneous tissue and of the stomach, hypernephroma, adrenal adenoma, adenomas of the breast and ovary, malignant tumors of the testicle, and a series of benign and malignant tumors of the liver, the latter with metastases. These specimens serve to demonstrate that mice are subject to many different sorts of spontaneous tumors, which present quite the same characteristics as to histological structure, location, and type of growth as the corresponding tumors in

man. While mammary gland cancers are much the most frequent they are by no means the only tumor from which mice suffer, constituting but little more than half of the neoplasms arising in Miss Slye's stock. The characteristics of these common mammary gland tumors were also discussed, and microphotographs shown which demonstrated that in the essential features of infiltration and metastases these mammary gland carcinomas exhibit those properties which in man are considered as proof of malignancy.

Next in frequency among the spontaneous tumors of mice are the neoplasms which arise in the lungs. In Miss Slye's stock of the first 6,000 mice autopsied lung tumors were found in 160, or in 4 per cent of all the 4,000 mice which died at the age of one year or more, tumors rarely occurring before this age. These tumors constitute an especially favorable material in which to study the development of neoplasms, for they can be found in all stages, from the simple inflammatory hyperplasia in which they take their origin to true carcinomas with metastases throughout the body. A series of microphotographs was shown illustrating various stages and features of the growth of these tumors.

Also specimens of leukemia in mice, and the related lymphomatous processes were shown. In mice we find the same group of lymphomatous proliferations as in man, covering the entire field from the typical lymphosarcoma, which, as in man, frequently arises in the mediastinum, through the pseudo-leukemias to typical leukemias. These growths have so far failed of transplantation or inoculation to other mice, but have been found by Miss Slye to have interesting hereditary relations. They occur almost entirely in the strains of mice that are prone to develop tumors because of ancestral cancer, and, in breeding for cancer, they seem to occupy quite the same place in their influence as growths ordinarily recognized as true tumors. These observations support those who hold that leukemia and true pseudo-leukemia (not lymphogranulomatosis) are neoplasms.

Charts were shown from Miss Slye's collection, illustrating certain features of the results that she has obtained in her studies of the influences of heredity on cancer. Miss Slye has been studying various features of experimental evolution with mice for some six years, and has at present a stock of about 9,000 mice of known pedigree representing 20 to 25 generations. For the past three and one-half years this stock has been bred with particular reference to the problem of the influence of heredity on the incidence of cancer, exactly as a student of experimental evolution would investigate the control of coat color, ear form, or other inheritable features, through selected breeding. The possibility of contagion has been considered, and it has been found impossible to secure any evidence that contagion ever occurs in tumor mice, despite the most deliberately planned experiments to bring this about, if possible. The influence of heredity, however, has been found to be very definite.

*Abstract of a Demonstration of Photo-Micrographs, December 7, 1914, Before the Des Moines Pathological Society.

To illustrate, hereditary influences show a marked relation to the occurrence and character of the lung tumors mentioned above. In 155 cases investigated from this standpoint, there was a tumor ancestry in 146, and but 9 of the cases of lung tumor appeared in the mice without tumor ancestry. As somewhat over one-third of the mice autopsied were from non-cancerous strains, the theoretical proportion if inheritance played no part should have given at least 50 cases in these strains, instead of only nine. Furthermore, of these nine cases, all were benign. According to the scale of relative malignancy used in classifying these tumors, seven fell into the last group,—that is, they showed no tendency to spread and no evidence of malignant character of growth; the other two showed slightly more active growth, in one a papillary growth into a bronchus suggesting a slight tendency to malignancy. In other words, mice without cancer ancestry seldom show in the lungs any inflammatory reactions that pass beyond the ordinary characters of simple inflammation; and if excessive proliferation does occur it does not exceed that of a slight papillary growth, without tendency to formation of true cancer. Similar inflammatory conditions in mice with cancer ancestry, however, are much more prone to pass beyond the proper limits of inflammatory reaction, forming true tumors in a large proportion of all cases, many of which go on to the formation of cancers. Furthermore, of our 20 cases of "highly malignant" lung tumors, practically all occurred in mice with highly cancerous ancestry. From these facts, and from similar observations in connection with other tumors in mice, it seems that the influence of heredity in determining the incidence of tumor lies in its modifying the nature or degree of reaction to injury.

All mice are alike subject to infections and injuries in the lungs, and all react thereto by inflammatory proliferation of cells. In mice of tumor ancestry the reaction, however, is often excessive and is very prone to pass beyond the degrees and characters of simple inflammation, the cells continuing to grow until they form true neoplasms. Mice without tumor ancestry may, if the amount and character of the injury is appropriate, occasionally react with excessive proliferation, but this is much less likely to happen than in mice with tumor ancestry, and, furthermore, this proliferation practically never assumes malignant characters. If the mice have much cancer in their ancestry, however, the proliferation is especially likely to become truly and actively malignant.

An exactly analogous condition in chickens is described by Bateson in the following words. "When the incubators are not running uniformly many of the chickens are born with deformed feet. Such abnormality, however, is found with especial frequency in particular strains of birds, although eggs from others strains exposed to the same conditions may give perfectly normal results. The liability is the thing transmitted, but without the appropriate conditions the effect is not produced." That is, heredity modifies the character or degree of the effect produced by a common injury.

With other forms of tumors the influence of heredity is equally plain, and Miss Slye has found it possible by selective breeding to produce strains of mice in which the natural death of the mice that reach sufficient age is largely from cancer. Also strains have been bred in which cancer appears rarely or not at all. Furthermore, by hybridization it has been found possible to introduce cancer or to extract it from a hybrid strain, exactly as coat color or any other inherited character may be introduced or extracted, within the limits imposed by the fact that cancer does not appear in early life as do the other qualities.

W. L. Bierring, M. D.

SOCIETY PROCEEDINGS

The Appanoose County Medical Society had on January 27, 1915, the following program:

Backache—Dr. G. F. Severs.

Report of a Case of Septic Infection of the Arm—Dr. C. E. Lowrey.

Treatment of Septic Infection of the Hand—Dr. W. J. Fenton.

Treatment of Furunculosis and Carbuncle—Dr. T. W. Blachley.

Boone County Medical Society met Friday evening, January 15, 1915, in the office of Dr. M. A. Healy. Officers for the following year were elected as follows: Dr. James C. Ganoe, Ogden, president; Dr. William Woodburn, Boone, vice-president; Dr. Maurice A. Healy, Boone, secretary-treasurer; Dr. Thaddeus C. Cooper, Luther, delegate to state society.

Buena Vista County Medical Society has for its 1915 officers; president, Dr. James H. O'Donoghue, Storm Lake; vice-president, Dr. Joseph H. Delahunt, Marathon; secretary-treasurer, Dr. Edgar F. Smith, Storm Lake; delegate to State Society, Dr. Issi O. Pond, Sioux Rapids; alternate delegate, Dr. John W. Morrison, Alta.

The Dallas-Guthrie County Medical Society met at Adel, Thursday, January 21, 1915, and the following program was carried out:

Diagnosis of Syphilis—Dr. R. A. Weston, Des Moines.

Treatment of Syphilis—Dr. J. A. Pringle, Bagley.

Congenital Syphilis—Dr. A. M. Rogers, Woodward.

The annual meeting of the Dubuque County Medical Society was held Tuesday evening at the Wales Hotel. Officers for 1915 were elected and other business pertaining to the society was transacted and a banquet and social time enjoyed by the members. The following officers were elected for the ensuing year: President, Dr. I. S. Bigelow; first vice-president, Dr. Lilly Kinnier; second vice-president, Dr. H. M. Pahlas; treasurer, Dr. L. H. Fritz;

secretary, Dr. C. A. McGuire; delegate, Dr. J. C. Hancock; alternate, Dr. H. G. Langworth.

At a meeting of the Howard County Medical Society, held at Cresco, Iowa, January 15, 1915, the following officers were elected: President, Dr. J. W. Mulick, Elma, Iowa; vice-president, Dr. J. W. Jinderlee, Cresco, Iowa; secretary-treasurer, Dr. W. C. Hess, Cresco, Iowa; delegate, Dr. Geo. Kessel, Cresco, Iowa; alternate, Dr. W. C. Hess, Cresco, Iowa.

Ida County reports the following officers for 1915: Dr. Edw. S. Parker, president, Ida Grove; Chas. S. Stoakes, vice-president, Battle Creek, Iowa; Giles C. Moorehead, secretary, Ida Grove; E. S. Parker, delegate, Ida Grove; Chester L. Putnam, alternate, Holstein.

The Jasper County Medical Society held its annual meeting in the Assembly Room of the Court House at Newton, Iowa, on January 7, 1915. Dr. Henry Albert, of Iowa City, delivered the principal address, his subject being "The Problem of Cancer." The following officers were elected for the ensuing year: Dr. S. E. Hinshaw, Newton, president; Dr. L. L. Smead, Newton, vice-president; Dr. H. P. Engle, Newton, secretary-treasurer; Dr. H. P. Engle was elected delegate to the State Society.

The annual meeting of the Lee County Medical Society was held at Fort Madison, December 30, 1914. At the morning session officers as follows were elected: President, Dr. E. G. Wollenweber, Keokuk; vice-president, Dr. F. C. Roberts, Fort Madison; secretary-treasurer, Dr. Val Doering, Fort Madison; delegate, Dr. J. R. Walker, Fort Madison. After a banquet, served at 1 o'clock at which about 60 members and guests were present the scientific program was heard.

1. Syphilis of the Nervous System—Dr. Clarence Van Epps, Iowa City.

This paper was discussed by Drs. Frank M. Fuller, of Keokuk; C. F. Wahrer, F. M. Brown, Dr. Sherlock and closed by Dr. Van Epps.

2. Diagnosis of Diseases of the Colon, illustrated by stereoptican slides—Dr. Wm. Engelbaugh, St. Louis, Mo.

3. Anesthesia from the Patients Standpoint—Dr. Clifford U. Collins, Peoria, Ill.

4. Technic of Applying Heat in the Treatment of Inoperable Uterine Carcinoma—Dr. J. F. Percy, Galesburg, Ill.

Owing to lack of time the last three papers were not discussed. A noteworthy feature of the meeting occurred just before taking up the scientific work when Dr. O. D. Walker, of Salina, Kansas, who had been associated with him for many years gave an eulogy in commemoration of the professional, political civic, fraternal and home life of the late Dr. Geo. F. Jenkins.

At the regular meeting of the Linn County Medical Society held Tuesday, January 5, 1915, about

eighty-five members and guests were present. The program follows:

The Relation Between Fauical Tonsils and Systemic Infection—Dr. George Shambaugh, professor in Otology, Rush Medical College.

Focal Infection in Relation to Systemic Disease—Dr. Wilber E. Post, assistant professor in the department Internal Medicine, Rush Medical College.

At the annual meeting of the Muscatine County Medical Society held at the Geneva Golf and Country Club, December 28, 1914, Dr. Campbell P. Howard, Iowa City, read a paper on "The Diagnosis and Treatment of Acute Articular Rheumatism." At the business session the following officers were elected for 1915: President, Dr. A. J. Weaver, Muscatine; first vice-president, F. L. Appel, Muscatine; second vice-president, Dr. W. A. Cooling, Wilton; secretary-treasurer, Dr. Rodney M. Arey, Muscatine.

The regular meeting of the Polk County Medical Society was held at the Savery Hotel, January 26, 1915. The members of the Committees on Public Health from both the Senate and House were especially invited to attend this meeting. The Senate Committee was represented by Senators Parker and Enger, while the lower house was represented by Dr. A. W. Slaught, chairman; Dr. D. C. Steelsmith and Messrs. Miller, Taylor, Becker, and Stone. The program was:

Squint—Dr. C. C. Walker.

Report of One Thousand Orthopedic Cases—Dr. Arthur Steindler.

Needed legislation was discussed and it was generally agreed to get behind the vital statistics bill and push.

The 53rd annual meeting of the Scott County Medical Society was held at Davenport, January 5, 1915. Dr. Julius Grunker, Chicago, gave an address on "What Can Surgery do for the Nervous System."

Officers elected for 1915 are: President, Dr. A. P. Donahoe, Davenport; vice-president, K. H. Struck, Davenport; secretary, J. V. Littig, Davenport; treasurer, Dr. T. W. Kemmerer, Davenport; delegate, Dr. W. L. Allen, Davenport; alternate, Dr. W. H. Rendleman, Davenport.

On Tuesday evening February 2, the Society had this program.

1. Laboratory Diagnosis of Syphilis—Dr. Daniel J. Glomset, Des Moines.

2. Informal Remarks—Dr. G. F. Harkness, Davenport.

The 19th semi-annual meeting of the Sioux Valley Medical Association was held at West Hotel, Sioux City, January 20 and 21, 1915. There was an attendance of over one hundred to hear the following exceedingly interesting and instructive program:

Fractures of Long Bones—Dr. W. H. Dewey, Moline, Iowa.

Hydatiform Mole, Report of Case—Dr. C. W. Ellyson, Alta, Iowa.

Tarsectomy Versus Tracoma—Dr. J. W. Shuman, Sioux City, Iowa.

The Frontal Sinus; Its Drainage by Intranasal Surgery—Dr. Otto D. Freer, Chicago.

Arthritis Deformans—Dr. George F. Butler, Mudlavia-Kramer, Indiana.

Indications for and Limitations of Gastroenterostomy—Dr. L. J. Townsend, Sioux City, Iowa.

Some Satisfactory Methods in the Treatment of Children—Dr. J. P. Sedgwick, Minneapolis, Minnesota.

The Treatment and Ultimate Results in Hip Disease—Dr. John Ridlon, Chicago, Illinois.

The Position of the Roentgenologist in the Galaxy of Medical Specialists—Dr. Frank S. Bissell, Minneapolis, Minnesota.

Conservative Surgery of the Female Genitalia—Dr. C. DeJong, Fort Dodge, Iowa.

The Crisis of Pneumonia—Dr. W. E. Sanders, Des Moines, Iowa.

Lingual Tonsillitis—Dr. J. G. Parsons, Sioux Falls, South Dakota.

An Operation for Complete Procidentia of the Uterus—Dr. Donald Macrae, Jr., Council Bluffs, Iowa.

Inheritance Factors—Dr. G. C. Moorehead, Ida Grove, Iowa.

The Medical Treatment of Gastric Ulcer and a Review of the Indications for Operation—Dr. F. S. Johnson, Sioux City, Iowa.

Acute Articular Rheumatism—Dr. E. W. Meis, Sioux City, Iowa.

Ureteral Calculi—Dr. William Jepson, Sioux City, Iowa.

Syphilis of the Aorta—Dr. A. D. Dun, Omaha, Nebraska.

The winter meeting of the Iowa and Illinois Central District Medical Association was held at Hotel Kimball, Davenport, Iowa, January 14, 1915 with forty members in attendance. The program was as follows:

1. Dementia Precox—Dr. W. A. Crooks, Rock Island, Illinois.

Discussion open by Dr. R. P. Carney, Davenport, Iowa, and H. A. Beam, Moline, Illinois.

2. Treatment of Disease Through Nerve Reflexes—Dr. O. P. Sala, Davenport, Iowa.

Discussion opened by Dr. Emily Wright, Rock Island, Illinois, and Dr. S. G. Hands, Davenport, Iowa.

3. Significance of Visceral Pain—Dr. G. E. Decker, Davenport, Iowa.

Discussion opened by Dr. F. J. Otis, Moline, Illinois, and Dr. W. L. Allen, Davenport, Iowa.

4. Pericolic Membranes—Dr. S. C. Plummer, Chicago, Illinois.

Discussion opened by Dr. G. L. Eyster, Rock Island, Illinois, and D. S. Fairchild, Clinton.

MARRIAGES

Dr. Ralph Emmert Keyser, to Miss Fama Lennox, both of Marshalltown, January 2, 1915.

BIRTHS

Dr. and Mrs. Enos Miller, Wellman, Iowa, January 6, 1915, a daughter.

Dr. and Mrs. John G. Walsh, Panama, Iowa, a son.

Dr. and Mrs. J. R. Condon, Des Moines, Iowa, January 20, 1915, a son.

Dr. and Mrs. D. C. Steelsmith, Melvin, Iowa, January 10, 1915, a daughter.

Dr. and Mrs. J. F. McKittrick, Des Moines, February 1, 1915, a daughter.

DEATHS

George B. Little, M. D., Rush Medical College 1873. A practitioner at Burlington for forty years, died at his home in Burlington January 31 from a paralytic stroke, aged 64.

Chas. H. Flynn, M. D., Keokuk Medical College, 1891, died at his home, Postville, Iowa, from tuberculosis, aged 57.

William M. Eddy, M. D., Cleveland University of Medicine and Surgery, 1865, a practitioner at Marengo, Iowa, since the early 60's, died at Mt. Pleasant, Iowa, December 27, 1914, aged 76.

Manley H. Sprague, M. D., Columbus Medical College, 1830, formerly of Eddyville, died at his home in Ottumwa, Iowa, January 13, 1915, aged 62.

Alonzo B. Hughes, M. D., Keokuk Medical College 1897. Member of American Medical Association, Iowa State and Lee County Medical Societies, professor of chemistry in the Keokuk Medical College, later in the Keokuk College of Physicians of Surgeons until the absorption of that college to the Drake University College of Medicine, a man prominent in the educational matters in Keokuk, died at his home in Keokuk, January 16, 1915 from diabetes, aged 58.

Aaron A. Noyes, M. D., College and Physicians and Surgeons Keokuk 1850. Member of the American Medical Association, Iowa State and Cerro Gordo County Medical Societies; organizer of the Delaware County Medical Society in 1862 and Cerro Gordo County Medical Society in 1871, also Cedar Valley Medical Society in 1868 and Upper Cedar Valley Medical Society in 1872 member of board of medical examiners of the State University, Iowa City, in 1876; for eighteen years local surgeon of the Iowa Central Railway; a practitioner at one time in Dubuque and Waterloo, locating at Mason City in 1869; coming there on the first passenger train to enter that city, where he practiced for many years, died at the home of his niece in Wauwatosa, Wis., January 6, 1915, aged 92.

George D. Rowe, M. D., Medical School of Maine, Brunswick, 1868. Member of the American Medical Association, Iowa State and Boone County Medical Societies; a veteran of the Civil War, enlisted in Co. B, 15th New Hampshire Infantry; a practitioner at Boone, Iowa since 1868, died following an operation for malignant condition of bladder and intestine at the Army and Navy Hospital, Hot Springs, Arkansas, January 13, 1915, aged 69.

John Julius Rigg, M. D., College Physicians and Surgeons Keokuk, 1885, died at his home in Fort Madison, Iowa, in January.

CHANGE OF LOCATION

Dr. A. J. Farnham, of Waterloo, has removed to Traer.

Dr. Chas. W. Powell, of Zeiring, has sold his practice to Dr. Nicholas, of Lake Mills.

Dr. Bush Houston, of Montezuma, has purchased the practice of Dr. C. C. Soper, of Nevada. Dr. Soper will divert his attention to other interests.

Dr. J. N. Hoit, of Whiting, Iowa, has recently located in Rockwell City.

Dr. G. A. Everson, of Coulter, Iowa, has located at Plover.

Dr. John T. Padgham, Dayton, Iowa, has removed to Grinnell, where he will continue his practice.

Dr. R. C. Coleman, a graduate of the class of 1912, State University of Iowa College of Medicine, studying in past two years under European specialists, will locate at Estherville.

Milton W. Hall, a nephew of Dr. Robert H. Babcock, of Chicago, who served some time as resident pathologist in Cook County Hospital has lately located in Des Moines.

Dr. L. E. Stoughton, of Ridgeway, Mo., has located at Templeton, Iowa.

Dr. A. E. Conrod, of Chicago, has recently located at Decorah.

Dr. C. S. Grabin, of Boone, has removed to Alta.

NEWS NOTES

Dr. H. E. Eiel has recently been appointed postmaster at Buffalo Center by President Wilson.

The Spencer Hospital was formerly opened to the public, under the supervision of Miss Darling, January 15, 1915.

It is reported that the examination of the brain of a dog killed January 1, 1915 in West Oak, Iowa, shows unmistakably the presence of rabies.

Dr. E. E. Dorr has been elected Medical Director of the American Life Insurance Company, Des Moines, vice Dr. T. F. Kelleher, resigned.

Dr. William S. Parks, Brighton, recently underwent an operation for gall stones at the Washington,

Iowa hospital from which he is making a good recovery.

Dr. Henry Matthey, Davenport, Iowa, has been appointed surgeon in charge at Castle Holzen, a German Military Hospital at Ebenhausen near Munich.

Dr. Harry Zaizer, formerly of Burlington, has recently been appointed superintendent of the county hospital, alms houses and county farm at Santa Anna, California.

Dr. Woods Hutchinson says that three-fourths of the school houses should be torn down—"tear out the walls and leave the roof as the one-fourth." So mote it be.

The Des Moines Daily Capital does not accept medical advertisements of any kind or character. What a boom it would be to gullible humanity if there were more like it.

Dr. Alden J. Hoover and wife, of Ceserea, Turkey, are spending the winter in Des Moines. Dr. Hoover who is a graduate of the State University of Iowa College of Medicine, class 1905 has been engaged in Medical Missionary work at Ceserea, Turkey, for the past eight years.

In the 36th General Assembly which convened January 11, 1915, the medical profession is represented in the house by Dr. J. W. Coakley, Union County; Dr. Pierre McDermid, Adair County; Dr. A. W. Slaughter, Wapello County, and Dr. D. C. Steel-smith, Osceola County. The senate seems not to have drawn a physician this time. Politically Drs. Coakley, McDermid and Steelsmith are democrats while Dr. Slaughter is a republican.

At a meeting of the committee on Public Policy and Legislation held at Hotel Chamberlain, January 16th and attended by the President of the Society, several members of the council and other members of the profession especially interested in public health work, various subjects relating to public health were discussed, among them being the subject of vital statistics, and those present went on record in favor of an efficient vital statistics law.

Hon. B. J. Horschem, representative from Dubuque County and a prominent educator in north-eastern Iowa, has introduced a bill in the legislature which makes it a criminal offense for a physician to misrepresent the condition of a patient for the purpose of extorting money. Professor Horschem has seen many young men robbed of their peace of mind and their money by unscrupulous physicians and he is minded to remedy this abuse by this bill.

AMERICAN MEDICAL ASSOCIATION

The American Medical Association will meet in San Francisco, California, June 21-25, and Dr. J. W. Cokenower, Des Moines, is arranging the trip for the Iowa delegation and will announce in a later issue of the Journal, definite plans, route and special accommodations offered.

THE 1915 ANNUAL SESSION

Arrangements are being completed for the 1915 session at Waterloo, May 12-13-14.

The committee on arrangements met at Waterloo, January 26 and selected the new European Hotel Russel-Lamson for headquarters. This is said to be the finest hotel in the state today, the location on West Fifth street is excellent, only two or three blocks from the west side depots. The rates at this hotel will be from \$1.00 a day without bath with two in a room up to \$4.00 per day with bath. Meals will be served at reasonable rates. There are several other hotels in Waterloo and notice of their location and rates will appear in a later issue.

The meetings will all be held in Grace Methodist Episcopal Church in plain sight of and just nice walking distance from headquarters. The church is commodious and besides the auditorium for the general session, there are rooms for the House of Delegates, the council and all the various committees of the society.

The scientific committee met last July and selected as section chairmen Dr. Paul E. Gardner, New Hampton, chairman of the section on medicine; Dr. Oliver J. Fay, Des Moines, chairman of the section on surgery; Dr. Charles P. Frantz, Burlington, chairman on section eye, ear, nose and throat.

The various section chairmen have their sections filled and the program promises to be unusually interesting. A preliminary program will appear in the March issue of the Journal. Look for it.

The president announces as out of state guests Dr. C. A. L. Reed, of Cincinnati; Dr. George Edmund de Schweinitz, Philadelphia and possibly Charles Lyman Greene, of St. Paul.

THE HARRISON ANTI-NARCOTIC LAW

This much discussed law goes into effect March 1, 1915 and as applied to physicians, it provides:

First. That every physician who desires to administer opium, or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, shall register his name and place of business with the collector of internal revenue (for Iowa, Louis Murphy, Dubuque).

Second. He must keep a complete record of all of the aforesaid drugs dispensed by him showing dates, names, addresses and quantity; except such as may be dispensed to a patient upon whom he shall personally attend.

Third. He must procure from the collector of internal revenue an order form called "Order Forms for Opium."

Fourth. He must pay a registration fee of \$1.00 per year, but the act not becoming effective until March 1, 1915, the fee for the remaining months of the fiscal year is 34 cents.

Mr. Murphy will as rapidly as possible send proper blanks to every physician in the state. Do not write to Mr. Murphy either for blanks or copies of the law, he will send both as soon as possible. When the proper blank is received, fill it out and

send it with a draft or money order for 34 cents to "The Collector of Internal Revenue," Dubuque, Iowa. At the same time in a separate letter order a book of Ten "Order Forms for Opium." Send money order or draft for 10 cents. Later the "forms" may be had in books of fifty but not at present.

Recapitulation

Pay registration fee (34 cents for balance of fiscal year). Send money order or draft to the Collector of Internal Revenue.

Order a book of ten "Order Forms for Opium" in separate letter. Send 10 cents in money order or draft.

Keep a record of all drugs, subject to this law, showing dates, names, addresses and quantity dispensed.

Do not write Mr. Murphy unnecessary letters. He has troubles of his own just now.

WARNING

On October 13 a Fred Hernbloom, who was then agent for the American Accident Insurance Company of Lincoln, Neb., sold me two policies in said company and receipted on the company's receipt blank. According to the company he never turned in the applications nor the money. When I became suspicious of the matter and informed the company of the transaction on October 23, they did not reply in spite of having received the letter. Since the company claims that Fred Hernbloom is not now acting as their agent and refuses to state when he quit, and will not inform me where Hernbloom can be found, the Hon. E. H. English, Commissioner Insurance Department of Iowa, Des Moines, Iowa, as well as I, are very eager to locate said Fred Hernbloom, and will be very glad to hear from any one who can inform us where he can be found. Other medical journals will please copy this for the benefit of the profession at large.

Dr. S. W. Staads,

Sioux City, Iowa.

DEATHS FROM SUICIDES AND VIOLENCE

There were 9,988 suicides in the registration area during the year 1913, the rate being 15.8 per 100,000 population—a slight decrease as compared with 1912, when the rate was 16.

In the registration area there were 58,578 deaths from violence (including homicide and legal execution but excluding suicide), corresponding to a death rate of 92.5 per 100,000 population. This rate shows a considerable increase as compared with that for 1912, which was 88.9—Mortality Statistics, Bureau of Census.

WANT AD.

BOOK BARGAIN—Last edition Keen's Surgery (5 vol. \$35) and Johnson's Surgical Diagnosis (3 vol. \$18) in perfect condition. First check for \$35 gets both of them. Also some other good things in books and instruments at as good or better rates. No longer doing general practice. B. G. Dyer, M. D., Ames, Iowa.

The Journal of the Iowa State Medical Society

Vol. V

DES MOINES, IOWA, MARCH 15, 1915

No. 3

RABIES IN IOWA

HENRY ALBERT, M. D., Iowa City

Rabies (hydrophobia) is an expensive and unnecessary disease. It is on the increase in Iowa, as it is in most of the States of the Union.

In 1912, while preparing a paper on "The Control of Rabies" for the Fifteenth International Congress on Hygiene and Demography¹, I collected data in regard to the prevalence of hydrophobia and the means adopted to limit its spread, from all of the civilized countries of the world. Summarizing the more important data obtained at that time, I may say:

1. That rabies has never existed in Australia, due to the fact that no dogs are permitted to be introduced on that continent, without first being subjected to a six months' quarantine.

2. That the disease has been exterminated from Great Britain and practically so from Denmark, Norway and Sweden.

3. That hydrophobia is on the decline in Germany, France and a number of other countries where sanitary science has received generous recognition.

4. That rabies is on the increase in Russia, Bulgaria, Italy, India and the United States, where the natural difficulties in way of eliminating the disease are somewhat greater and where we must admit, the people in general do not as fully realize the importance of preventive measures.

PREVALENCE OF RABIES IN IOWA

At what time rabies first made its appearance in Iowa, we do not know. From the long existence of the disease in the eastern states, we may judge that rabies gained entrance to this country by way of one of the Atlantic seaports. It has taken a century to cross the continent, having been unknown in California until about three years ago,—since which time it has rapidly spread in epidemic form throughout that state.

The data relative to the number of cases of rabies in Iowa previous to 1909 is very meager. That year marked the beginning of the Pasteur

treatment for the prevention of rabies at the State Board of Health Laboratory at Iowa City. The more important statistical data concerning the disease in Iowa during the past five years is presented in the accompanying illustration:

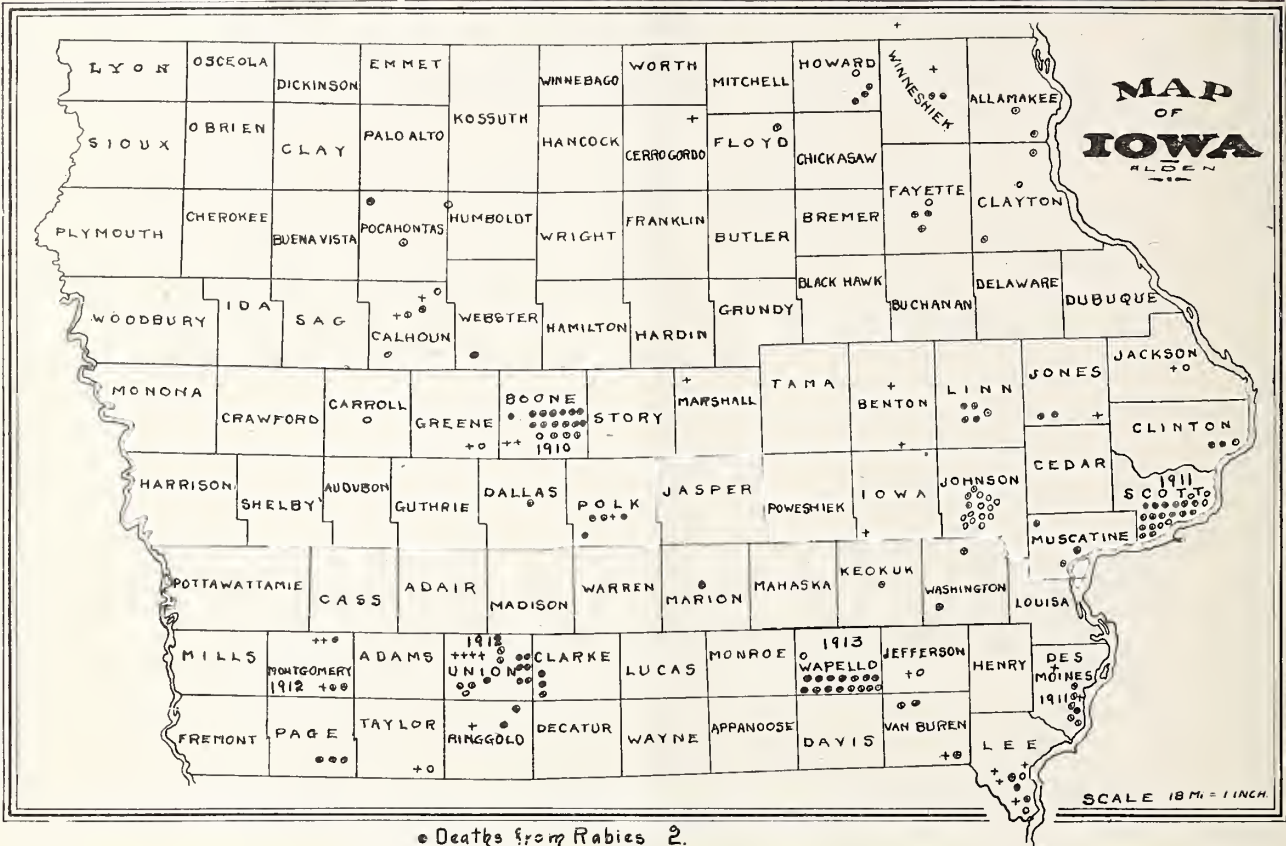
Although the disease has been quite widespread, the great majority of the cases have occurred in the southern half of the state. During this time, four distinct epidemics of rabies have occurred. In 1910, there was one in Boone County; in 1911, in Scott and Des Moines Counties; in 1912, in Union and Montgomery Counties; and in 1913, in Wapello County, especially in the neighborhood of Eldon. This last named epidemic has been the most severe. The epidemiology in this case is fairly typical of rabies outbreaks. There was a sudden onset during which time fourteen persons were bitten. The decline has been more gradual. During this time, however, two adjacent counties—Mahaska and Monroe, have been somewhat involved.

The work in connection with rabies done at the State Board of Health Laboratory consists of the examination of specimens for evidence of hydrophobia and the administration of the Pasteur treatment for the prevention of the disease.

EXAMINATION OF SPECIMENS FOR EVIDENCE OF RABIES

The laboratory examination for rabies consists of a search for Negri bodies, and, if such cannot be found, the making of an animal inoculation. The report on Negri bodies can be made in from one to three days, on the animal inoculation, in two or three weeks. For either examination, the brain of the animal is used. In order that the brain may be in proper condition for examination, it should be properly preserved. It should not be macerated by the shooting of the animal through the head or beating the skull to pieces with a club. It is not to be placed in preserving fluid nor allowed to decay. The head should, as soon as possible after the death of the animal, be severed from the body, wrapped in a piece of cloth, boxed and sent to the laboratory by first express. Except

RABIES IN IOWA 1909 to 1914.



- Deaths from Rabies 2.
- Patient applied, received treatment, + diagnosis 76
- Patient applied, received treatment, ? diagnosis. 46
- Patient applied, received no treatment. 31
- + Specimen diagnosed, no patient. 33

during the cold months of winter, the wrapped head should be surrounded by ice. (Preferably equal parts of cracked ice and sawdust.) But do not kill the animal unless necessary. Laboratory examinations will not always reveal the existence of the disease. The animal should be kept in confinement and watched. If the condition is rabies, it will develop typical symptoms and die within ten days.

PASTEUR TREATMENT FOR THE PREVENTION OF RABIES

The Pasteur treatment has largely robbed rabies of its terrors. Previous to 1886, when the treatment was first begun at the Pasteur Institute at Paris, the mortality from rabies of persons bitten by rabid or presumably rabid animals was 16 per cent. (Leblanc.) Since that time more than 30,000 persons have received the preventive treatment at the Paris Institute, with a mortality of only 0.5 of 1 per cent. The result in other places has been about the same. This treatment consists of daily subcutaneous injections of an emulsion of the spinal cord of a rabbit, for a period of twenty-one days. The spinal

cord used is from a rabbit which has developed the disease, but before being used the virulence of the rabies virus is diminished by drying the cord a number of days.

The administration of the Pasteur treatment for the prevention of rabies was begun at the State Board of Health Laboratory in 1909. The number of patients treated since that time and up to the close of the last annual report is 120 as shown by the following table. There was one death.

PASTEUR TREATMENTS GIVEN AT THE STATE BOARD OF HEALTH LABORATORY AT IOWA CITY

		No. treated.
February 11, 1909—July 1, 1909.....		7
July 1, 1909—July 1, 1910.....		8
" 1910 " 1911.....		32
" 1911 " 1912.....		35
" 1912 " 1913.....		38

Total.....120

Patients should begin the Pasteur treatment as soon as possible after having been bitten by a "mad" dog. Inasmuch as the Pasteur treatment

occasionally fails to produce the proper immunity, the wound should always be treated as soon as possible. Cauterization with fuming nitric acid or the application of a strong 40 per cent solution of formaldehyde seem to be the most serviceable local remedies. It is surprising that there are still localities where there is a popular belief in the efficacy of a mad stone. As yet, we have nothing certain in way of a cure for the disease, once developed. The work of Moon² on the curative treatment of rabies in dogs and the report of the cure of a probable case of human rabies by Harris³ after the intravenous injection of fifteen grains of quinine and urea hydrochloride dissolved in three cubic centimeters of water, is of suggestive value and worthy of further trial. In our own laboratory, we (Albert and Alden) have experimentally tried the use of quinine, salvarsan and neosalvarsan for the cure of the disease in rabbits, but did not get any favorable results. Haberin⁴ reports the cure of a case of human rabies by the use of subcutaneous injections of ten cubic centimeters of a one per cent aqueous solution of phenol, repeated every hour for twelve hours.

The duty of physicians as regards rabies is not limited to its prevention after a person has been bitten. We should seriously attempt the complete extermination of the disease. This can be done by reasonable and easily-carried-out measures directed toward the elimination of the disease from dogs.

REGULATIONS AIMING AT THE CONTROL OF RABIES
IN DOGS AND THE EVENTUAL COMPLETE
EXTERMINATION OF THE DISEASE

1. *Licensing*.—Stray dogs are the principal offenders, not only in spreading rabies, but in doing harm to live stock. Irrespective of the presence of rabies in a community all dogs ought to be licensed and provided with a collar and license tax. All stray dogs should be caught and killed in a humane manner. It is not desirable to arouse the prejudice of people by shooting dogs on the street.

2. *Muzzling*.—Wherever rabies is present in a given place all dogs permitted to run at large should be kept muzzled for a period of at least six months after the disappearance of the last case from the locality. There is a difference of opinion as to the size of the territory in which dogs should be muzzled whenever the disease appears. Certainly it should not be less than a city of moderate size, or in rural communities it should, in the United States, not be less than an average-sized township. If several cases occur at places several miles apart it is advisable to

have the regulations enforced over an area corresponding to a county. If the disease is widespread it is certainly best to have the dogs of an entire state muzzled. The muzzling of dogs is the most important measure in preventing the spread of rabies. The objection to muzzling comes from many well-meaning people who believe that it is cruel. It is not cruel to place a properly constructed (such as the basket type, made of metal) and well-fitting muzzle, on a dog. Such muzzle will permit the dog to open its mouth, pant, and drink, but not to bite. It is no more cruel to put a muzzle on a dog than a bit in a horse's mouth. Of course the dog will resent it at first; so does the horse resent the bit. But once they become accustomed to it they do not mind it. The good effect of this procedure has been demonstrated many times and in many places. Probably the best example is the result brought about in England, as is well shown by the following table:

NUMBER OF CASES OF RABIES IN GREAT BRITAIN

Year	No. of cases	
	Dog	Human
1887	217	29
1888	160	14
1889	312	30
Muzzling enforced		
1890	129	8
1891	79	7
1892	38	6
Opposition to muzzling; ordinance relaxed		
1893	93	4
1894	248	13
1895	672	20
Muzzling again enforced		
1896	438	8
1897	151	6
1898	17	2
1899	9	0
1900	6	0
1901	1	0
1902	13	0
1903-07	0	0

Note that with the enforcement of the muzzling law the number of cases of rabies rapidly declined from 217 in 1877 to 38 in 1892. In 1892 the authorities yielded to the petition of "dog lovers" and permitted muzzling to be discontinued. As a result the disease rapidly increased in number,—so rapidly that during the third year hence (1895), 672 dogs and 20 human beings died from rabies. The muzzling law was again enforced, the number of cases rapidly decreased and in 1902 entirely disappeared. Since that time no case of rabies has been recognized in Great

Britain. Dogs are not muzzled in England at the present time, but we are informed that muzzling will be resumed with the appearance of a single new case of the disease. The existence of a muzzling act should require all dogs not muzzled to be killed by the proper health or police authorities. In some places the right to kill any unmuzzled dog is given to any person.

3. *Detention of Dogs.*—Valuable dogs that have been associated with rabid animals, and are therefore probably infected, should be confined to a kennel or shed for a period of not less than three months, and preferably six months. When taken out for exercise they should be muzzled or led in leash. When the disease is prevalent it is best to have all dogs confined. Females in heat should at no time be permitted to run at large.

4. *Destruction of Dogs.*—All dogs known to be affected by rabies or to have been bitten by rabid animals should be killed. The mistake that is usually made is to kill the animal immediately after it has bitten a person, on the suspicion that it may be affected by rabies. The importance of such an error is realized when we remember that it is not always possible to get laboratory evidence of the disease even when it exists. Whenever possible an animal that has bitten a person should be kept for a period of ten days. If the disease does not develop nor the animal die within that time it may be safely concluded that rabies does not exist.

5. *Quarantine of Dogs.*—To prevent the introduction of rabies into a country, all dogs that are imported should be held in quarantine for a period of six months. Australia owes to a rigid enforcement of such a law the fact that it has never had a case of rabies. England, likewise, depends on it to keep the country free from the disease. Such quarantine may likewise be applied to the smaller divisions of a country. During a recent outbreak of the disease in Canada it was prohibited to move dogs from the infested area. In Germany a certificate from an official veterinarian is necessary to have a dog moved from one section to another.

To exterminate rabies it is necessary that the general public should be better informed regarding the disease, than it is at present, for without a co-operative public sentiment, not much can be hoped for.

The eradication of rabies is worth while for economic reasons because of the loss to the livestock industry.

Efforts at its eradication are many times over justified by the loss of human life and the almost

endless amount of worry which is now attached to the bite of a dog.

DISCUSSION

J. W. KIME, Fort Dodge: I was unfortunate enough to see the man to whom Dr. Albert referred, when he was dying, and while I have seen a great many persons die, I think this was the most painful and horrible death that I ever witnessed. If there is any likelihood of rabies extending in Iowa, as there certainly seems to be from what Dr. Albert has said, it is certainly incumbent upon us to do everything that we can, when our communities are threatened with it, to see that every precaution is taken to stamp it out as quickly as possible.

S. A. SPILLMAN, Ottumwa: I understand Dr. Albert to say there had been one death among those treated; is that correct?

DR. ALBERT: Let me say that our figures are taken from the last report of the State Board of Health, which ended the 1st of July last year. A second case which Dr. Spillman, no doubt, has in mind occurred since that time.

DR. SPILLMAN: I was going to ask about that case—not that I saw it, but I knew that there was a death in our town said to result from hydrophobia. I saw one of the cases that was treated by Dr. Albert at the time he was bitten. He has never had any trouble.

A. L. DRUET, Larchwood: I would like to ask Dr. Albert if forcible holding of the patient—strapping him down—is applied generally. There are a great many of us who have never seen a person die of hydrophobia. I have only seen one case, and that a fatal one. It was a most terrible death. He died in the county poor farm in Monroe County.

DR. ALBERT: I have nothing further to say except to answer this question asked by Dr. Druet. The case that Dr. Kime referred to was a man that realized that he was affected with hydrophobia and immediately started for Iowa City. When he left home he was still conscious of his condition; when he reached Grinnell he became rather unconscious, and by the time he reached Iowa City was apparently entirely unconscious. We gave him the sedatives which it is usual to give to relieve the convulsions incident to the disease. The sedatives did not, however absolutely quiet him. We therefore felt that to insure safety to the attendants, it was necessary to forcibly tie him down, and that was done. Personally I think the situation here is quite different from which exists in insane asylums. There is a growing feeling that inmates of hospitals for the care of the insane should not be strapped down, but in a case of hydrophobia I believe it to be entirely justifiable, in view of the danger to the attendants.

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1. Albert. The Control of Rabies—Transactions of the Fifteenth International Congress on Hygiene and Demography, 1912.

2. Moon. 1—Moon: The effect of Quinin on Rabies in Dogs. *Journal Infect. Diseases*, 1913. XIII-165.

3. Harris: A clinical report of seven cases of hydrophobia together with a case clinically similar with recovery following the injection of quinin. *Journal American Medical Association*, October 25, 1913, p. 1511.

4. Haberland: Apparent cure in case of hydrophobia. *New York State Journal of Medicine*, N. Y., September XII, No. 9, pp. 457-510.

WHAT THE PUBLIC SHOULD KNOW ABOUT CANCER*

L. W. LITIG, A. M., M. D., M. R. C. S., F. A. C. S., Davenport

That great strides have been made in medical knowledge during recent years is a statement so true and so often made that it does not need repetition. Men yet young in medicine have seen the veil of mystery torn from many diseases. Cancer almost alone still holds its secret in spite of the world-wide and incessant hunt for its cause in cancer institutes, in cancer hospitals, and in cancer research laboratories. No stones are left unturned to unveil its mystery. The goal is not yet, but progress has been made. The results of treatment are much better than a generation ago, and that they may become still better it is absolutely necessary that the public should have of cancer a conception as intelligent as it has of tuberculosis. At the present day, the public knows that consumption is one of the most easily preventable and one of the most easily curable of diseases, if recognized early and treated intelligently. This diffusion of knowledge in regard to tuberculosis was made possible by the co-operation of such great publications as the *Chicago Tribune*, the *Ladies Home Journal*, and *Colliers*, each one of which has been a great factor in spreading the light. The public knows that fresh air, food, and the destruction of the tubercle bacilli that are contained in the sputum will prevent tuberculosis; and that fresh air, food, and rest will cure tuberculosis. It may be said that the tuberculosis problem is solved.

Just now the social evil and the prevention of social diseases are much in the public press. Let this agitation continue. The public should know that the social diseases are woefully common; that thousands of young women are yearly led to the altar only later to be infected by their husbands with a most frightful disease, a disease that wrecks homes and makes marriage a mockery. Let this agitation continue until the public demands a most rigid law to protect our sons and our daughters, a law that will make it impossible for them to share the honeymoon with "damaged goods," and that will likewise prevent the occupation of the crib by the offspring of "damaged goods," or leave it empty. Let parents ask, not

as in Philadelphia, "Who is he," or as in New York, "How much has he got," or as in Boston, "What does he know," but let them ask, "How clean is he?" Let us have a law that will make a certificate of health a preliminary to marriage as indispensable as a marriage license. An honest man worthy of a good wife would welcome such a law, and an honest girl worthy of a good husband would likewise welcome such a law, and most willingly submit to its provisions. The doctor that knowingly or carelessly issues a health certificate not in accord with the facts should forfeit the right to practice medicine and be denied association with honest medical men.

Perhaps the most important problem before the public and the profession today, is the cause, the cure, and the prevention of cancer. The medical profession is ready and anxious to share with the public the knowledge it possesses. Although the cause of cancer is still obscure, yet valuable information is available. It is well-known that cancer never develops in previously healthy tissue, but that there always exists a pre-cancerous condition which favors the development of cancer, and which determines its location. It is well known that cancer is, for a time at least, a local and a curable disease, easily and surely curable if recognized sufficiently early. The public should know that the gloomy view of cancer that was held a generation ago is no longer justifiable, although the present day mortality is frightful. In England, cancer kills one woman of every eight after the age of thirty-five, and one man of every twelve of the same age. It was not so long ago that a correct diagnosis of cancer meant death, because the diagnosis was never an early diagnosis, and that view was justified by the experience of the period.

As recently as 1878, the great Billroth had operated on 148 cases of cancer of the breast, of which but eight survived the three-year period, and these were the best results obtained up to that time. Thirty years later, from 25 to 27 per cent at least of cancers of the breast operated remained well for from six to twenty years, and the end is not yet; this is but the beginning. A much greater percentage of recoveries will soon be recorded, because the public and the profession are learning that an early diagnosis means a cure.

There was a time when the correct diagnosis of cancer of the womb meant a fatality, but now at least 35 per cent remain well for the three-year period; of cancer of the lip, 53 per cent; of the tongue, 25 per cent; of the lower bowel, 18 per cent; of the intestine above the large bowel, 33 per cent.

*Read before the Iowa State Medical Society, Sioux City, May 13, 1914.

What is cancer? What is a cancer cell? Cancer cells are natural to the body, but they are displaced or misplaced, and abnormally arranged. They are riotous, rebellious cells, uncontrolled and uncontrollable. They grow in all directions, they respect no barrier which nature can offer to their progress. From a single starting point they attack, invade, and destroy every tissue that lies in their way, always involving a great area. They have been stimulated or incited to this riotous growth by some chronic local irritation. Cancer cells may enter a lymph channel, and later a blood vessel, and be floated to some distant point. Barring very rare exceptions, exceptions so rare that they do not enter into consideration in a given case, cancer untreated always results in death. A cancer tumor may grow so large that its center is nourished with difficulty, and it may break down, because of lack of nutrition. But the cells on the outside continue their invading, destroying growth.

What is the cause of this unbridled, disordered cell growth? A final answer to this question is impossible, although faint rays of light are seen. As has been stated, cancer never begins in normal tissue, its development is always preceded by long continued local irritation, which excites the cell growth known as cancer. Many instances may be cited to prove the statement: In certain parts of Thibet, during the winter months, as a protection against cold, the natives carry a charcoal stove or basket in the folds of their garments over the abdomen. In these people cancer of the skin at the particular point where this so-called Kankri basket rubs is not infrequent. Cancer at this point is not common except in the carriers of the Kankri basket. Hence the assumption that the cause of this type of cancer is found in the irritation produced by the Kankri basket, and the treatment is to do away with the Kankri basket.

In certain parts of India the natives chew the betel nut, often sleeping with the nut between the teeth and the cheek, and in these people cancer is prone to appear on the inside of the cheek, a point at which cancer does not occur except in the users of the betel nut. Here again the lesson is plain: to cure this type of cancer it is only necessary to abolish the habit of sleeping with the betel nut between the teeth and the cheek.

Cancer of the lip is very apt to occur in men of from forty to sixty that use short clay pipes. Here again we have chronic irritation, as we had in the Kankri basket and the betel nut, and the lesson is equally plain: abolish the short clay pipe.

It is said that in certain parts of China men eat very hot rice, and cancer of the esophagus and of the stomach is very common in Chinese men. The women, who dine later, after the rice has grown cold, do not suffer from the same type of cancer. Hence the assumption that very hot food is a sufficient irritation to cause cancer of the esophagus or of the stomach.

As another example of long continued irritation, we have gall stones, which very frequently cause cancer of the bile passages, there being very few cases of cancer at this point not associated with gall stones. In all these instances long continued, chronic irritation is found to be the cause of cancer.

Cancer is not hereditary, and this statement is made in the face of much evidence that seems to conclusively prove the contrary. How sure we were that tuberculosis was hereditary, or at least a peculiar susceptibility to tuberculosis was inherited, but now we know that the conclusions were wrong in spite of what seemed overwhelming evidence. If cancer be hereditary at all, it is very feebly so, and heredity must be disregarded as its cause.

Cancer is not contagious. It has never been reported that a wife contracted cancer while nursing a long suffering husband, or that a surgeon contracted cancer while operating.

Can cancer be cured? On this point there is absolutely no difference of opinion. Cancer can be cured, and is being cured in a constantly increasing per cent of all cases. How? By one method only: its early and complete removal with a knife.

Cancer always starts from a single focus. But cancer cells are never idle, their one function is to increase in number, to invade, and to destroy, and the time favorable for removal is soon past.

The public must know that cancer is curable, and that its curability depends on the time that cure is attempted. Every month, every week, every day, every hour added to its growth lessens the chance for complete recovery. It is local in the beginning, but it rapidly spreads and becomes a general disease. Hence the great importance of its early recognition and early removal. So often a sympathetic, but misguided relative or friend says to you, "Doctor, if it is cancer, don't tell her." This advice is most damnable, and if you follow it you are not faithful to your trust, except perhaps, in cases of cancer that have progressed to such a degree that operation is out of the question. To know that cancer is present, and not to tell the patient is a crime, if the growth be operable. The patient

must be told the truth and at once, and the importance of immediate surgical intervention must be emphasized, likewise the danger of delay: an early operation means recovery, procrastination means death. I want to say here with all the emphasis I can command, that the physician that makes an early diagnosis of cancer renders to his patient a greater service than the surgeon that removes the tumor, and such a physician should be fittingly remunerated for the great service he has rendered. On the other hand, the physician that falters, that advises delay, to "see whether the tumor will make trouble or not," who says "time enough to think of surgery when the tumor troubles you;" that man does not merit a fee, not even a "thank you," because he is responsible for the tragedy that is all too sure to come.

Cancer is very rare under twenty years, uncommon from twenty to thirty, most common from forty-five to sixty. In order of frequency, it occurs in the stomach and liver, in the intestines, in the female pelvis, in the female breast, in the mouth, and the skin. Cancer is curable if treated early, untreated its mortality is 100 per cent.

In early cancer there is no sense of illness, no pain, no soreness, no discomfort, there is only a lump. The patient never felt better; why worry? The golden opportunity for complete cure slips away while patient and doctor wait to see whether it will make trouble. They are waiting and watching for trouble, and the trouble is sure to come with its tragic ending.

Cancer of the Breast.—The public, every woman, every trained nurse, every druggist, should know that an overwhelming majority of tumors of the breast in women over thirty-five are cancer, and that the overwhelming majority of benign tumors of the breast of women sooner or later become cancer. There is a little lump in the breast, it is not painful, it is not making trouble, the woman is in the best of health, but she is over thirty-five, she is in the cancer age. This woman should at once consult a physician, but she must shun as a menace the doctor that advises her to wait until the growth makes trouble. She must shun as a viper the kind old lady that advises delay, and that consoles and comforts her with the advice that it is nothing. This little tumor is a local disease, it can be removed without danger, and completely removed. But the time to remove it is at once, because the time favorable for operation is short. The same advice applies to every tumor of the breast regardless of the age of the patient. No cases are sadder than those that come to the surgeon with

an inoperable cancer of the breast, inoperable because the golden opportunity was lost.

Cancer of the Womb.—No disease has been more relentless than this, no disease has permitted fewer cures until recently. At the present time, many cures of cancer of the womb are being reported, a percentage as high as 50 per cent, if operated sufficiently early. Even this disease need not terrify, because the percentage of cures will be much greater when cancer facts become generally known. Every woman should know that cancer of the womb is indicated by very mild but very suggestive symptoms, and that this early period presents an excellent and practically the only opportunity for cure. Any increase or irregularity in the monthly flow in a woman over thirty-five demands attention, likewise a slight return in a woman several years past the menopause, or an unusual discharge. Women should know that chronic irritation is the cause of cancer, and hence should not fail to have the mouth of the womb repaired when it is lacerated or torn. They should know that benign tumors of the womb often become cancerous. If cancer of the womb is to be prevented, precancerous conditions must receive attention, and the surgeon must be summoned at the earliest indications of trouble. A little bleeding at the time of the visit must not be offered or accepted as an excuse for deferring a careful examination. Let me repeat: uterine tears, benign tumors, and irregular bleeding or discharge must receive attention, because the favorable time is short.

Cancer of the Lip.—Every man over forty that uses a pipe should know that a little wart beginning on the lower lip or a little sore that refuses to heal is almost invariably cancer. Here the evidence is clear and easily recognized. There is not the shadow of an excuse for delay. An early operation means cure, a deferred operation means disaster.

Cancer of the Mouth and Tongue is almost entirely confined to men over forty. They feel well and strong, their appearance is that of good health, yet there may be some discomfort felt about the tongue, and this should serve as a warning. There may be very little pain, or there may be a little wart or sore on the tongue that refuses to heal, the sore may be caused by a rough jagged tooth, but it does not heal, even when the tooth is removed. This is probably cancer. Or there may be patches of white on the tongue, on the roof of the mouth, in all probability cancer. These conditions require immediate attention as here the time is especially short.

Cancer of the Skin.—The public should know that a lump or wart anywhere on the skin, especially in advancing age, that does not readily get well, requires proper treatment, as it may be cancer. Elevated, pigmented moles if so located as to be exposed to irritation should be freely excised, as they frequently become the starting point for cancer.

Cancer of the Stomach and Bowels.—A man over forty should know that attacks of recurring indigestion, attacks of nausea, of a failing appetite, especially if associated with loss of weight and strength, are suggestive of cancer. Loss of weight and strength is an early symptom, and if associated with indigestion it is a most suggestive symptom. Do not delay until the typical symptoms of cancer of the stomach appear as cachexia, tumor, coffee grounds vomit. Do not wait until the diagnosis can be made with absolute certainty, as an absolutely sure diagnosis can only be based on conditions so grave that the chances for recovery are exceedingly poor. Do not waste time with the X-ray, but see a competent surgeon at once.

Cancer of the Intestine is indicated by colicky pains, obstinate constipation, perhaps constipation alternating with diarrhea. These symptoms require most careful attention. The public should know that cancer of the lower bowel is often mistaken for hemorrhoids or piles. Cancer is very apt to be present when there is pain with the movements, or when movements are frequent but small in quantity.

Cancer of the Bile Passage.—Every man and woman over thirty-five should know that cancer of the bile passages and the liver is usually the result of the long continued irritation of gall stones, and that gall stone disease must be diagnosed without waiting for the classic symptoms. Cancer of the bile passages will become much less frequent if the source of chronic irritation, the gall stones, be removed.

To resume: The public should know,

1. That cancer is due to chronic irritation of one kind or another.
2. That cancer is in the beginning a local disease, that it spreads in all directions from a single point.
3. That cancer is curable if treated early, and that the time favorable for treatment is soon passed; without treatment it terminates in death.
4. That cancer of the breast begins as a painless lump, that cancer of the womb is manifested by irregular bleeding or discharge, cancer of the lip by a little sore that refuses to heal, cancer of

the stomach by indigestion, cancer of the lower bowel is often mistaken for hemorrhoids, cancer of the bile passages is preceded by gall stones. All these conditions require prompt and careful investigation. As the public learns these facts will the mortality from cancer grow less.

SEX TEACHINGS*

G. C. MOORHEAD, M. D., Ida Grove

The supreme question of the hour is the sex problem.

Civilization has crawled at a snail's pace from the oriental concubine and the harem to the western mistress of the home and the participant in man's business and political activities, and there is a long steep pull ahead from the double to the single standard of living.

Man's inability to appreciably extend the span of life beyond three score years and ten, is not due so much to his ignorance of bacteriology and physics as to his ignorance of sex; the great human problem.

Centuries ago ignorance, religion and social customs drew a veil about this subject and wrote upon it, the inscription, unclean, leaving the vestal lamps of knowledge to the care of the scarlet women of the world.

This great human problem is so vital, so essential to the progress of civilization, that it will not down, and in my judgment it must be threshed out before much farther progress is made.

It is for the twentieth century and the present generation to lift this veil and turn upon it the search light of science.

The opinions offered in this paper are largely personal and not given as authority, although in the main, are in harmony with views held by writers upon this subject.

To be explicit, I will paragraph and number the points of special importance.

First: Practically all children receive sex instruction and are taught a sex language.

Second: This sex language and sex instruction is given between the ages of six and ten with certain amplifications for two to four years later.

Third: This information is not handed down from an older to a younger generation as childhood activities like games whistling and so forth, but is given by one to a group of learners.

Fourth: The child teacher is either subnormal, a degenerate, or a sexual pervert at the time he is acting in the capacity of an instructor.

Perversion in the tender years of life has a physiological basis.

Idiocy, degeneracy, and perversion, when well

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marked show anatomical alterations in the left anterior brain, the motor area. It is this motor area that in childhood becomes the anterior association area and upon its development depends largely the future efficiency of the individual.

Within this association area is found the kinæsthetic genital reflex or sex center.

Many physiologists do not accept the idea of a sex center but hold it is a general expression like hunger and thirst.

The opinion here expressed is however, in harmony with views held by psychologists.

It is in the tender years of life when the mind is most plastic that indelible impressions are made and it is these indelible sex impressions that mold our future attitude toward society.

Abundant testimony will sustain the statement that the child sex teacher in adult life frequently shows marked signs of being subnormal or a degenerate.

Child perversion is not so easily discovered in the adult.

With some it is reasonable to believe that later morals training has modified or corrected it.

However there is much evidence to support the opinion that it crops out later in the secret realms of life and frequently finds expression in the vendor of unchaste tales. Be this as it may, the vital point to consider is as stated, that at the time the boy is acting as a sex instructor, he is a pervert.

Conceding this, we must accept this statement that the universal knowledge of sex, that the world possesses, has come to us through the degenerate or pervert mind. This is the reason a veil has been drawn about the subject and it is called unclean.

The former view that modesty is an instinct, has given way to the opinion that it is an acquired habit. For this reason the blush of modesty is but too often an unconscious acknowledgment of an unclean mind.

In harmony with this view, we find the refined nature of woman makes her less modest than man.

This statement is not made for the purpose of posing as an iconoclast. The correctness of it I am willing to submit to you as physicians to decide from your personal experience in dealing with men and women.

For so long has man viewed woman through sex perverted eyes, that primitive civilization has made her the hewer of wood and the drawer of water.

Asiatic religions offer her for barter and sale. English laws forbid her divorce for adultery,

while granting it to man; and the unwritten law of America is fast justifying murder for her unchastity.

So dominant is this view of women held by man, that we today discriminate against her in wages, refuse her recognition in administrative affairs of government, and segregate her for the purposes of vice.

It is this view this mental attitude of the male toward the female born of perversion and degeneracy that constitutes the great sex problem of today.

Until we understand it and appreciate it in its broadest sense conditions will remain as they are.

The double standard lie, the necessity lie, the bad cold lie will continue to infect 80 per cent of the men of America. Cause 75 per cent of the operations performed on women and 90 per cent of infantile blindness. Two hundred and fifty thousand resident venereal infections a year in New York City is appalling. Fifty-five per cent of the inmates of resort houses of the cities are defectives ranging from simple-minded to imbecility. Nothing but degeneracy and perversion can account for their patronage.

This sex problem is so interwoven in the fabric of our civilization that it baffles science, scoffs at law, and makes a travesty of religion.

These are the conditions. This is the problem we face and every premature or spasmodic effort we make to correct it will meet with failure. We must recognize it as a fundamental factor in our civilization and deal with it accordingly.

We are slowly but certainly evolving a new moral code. Venereal infection is driving the world to accept monogomy. Eugenics has come into our social evolution and is forcing men and women to view marriage from a new angle. Advancing scientific knowledge and civilization force us to study sex perversion, for perversion is the web that entangles marital relations and makes of marriage but food for the divorce court.

Puerile sensual concepts of marriage must give way to the practical unpoetic idea of co-partnership. The child must grow up in the environment of regard and deference to individual tastes and rights. In other words in a home where a man and woman have learned to live together in harmony.

It is only such a home that can be honest with a child and teach it the true knowledge of sex. Not until this is done, can the baneful influence of the pervert and degenerate child teacher, be counteracted or eliminated. If the home cannot teach sex hygiene, then the home must be taught.

The pure plastic mind of the child must be given the truth, it is right, it is fair, it is just. The child must learn to view the opposite sex as an essential part of its creative entity.

That the law of natural selection is left free to later bring together suitable personalities, and from their union is to spring the fruits of that eternal energy, that was given us in the parental chromosomes; and that is ours to guard for a time and to pass it on as the priceless heritage, to those for whom we live.

DISCUSSION

EDWARD HORNIBROOK, Cherokee: My own opinion about this subject of sex hygiene and its teachings is that it is overdone; that people already know too much and think too much about sex; that this wave in favor of sex teaching will be but a passing wave. In my experience I have seen various waves pass over us. About sixty years ago there was a wave of denunciation of sexual self-abuse, and nearly all the diseases at that time met with, especially insane cases, were traced to sexual self-abuse, and the country was flooded with pernicious literature. In fact, sex is one of the things that the less said and thought about the better.

I can't help thinking of the wisdom of the remark of the late Archbishop Hughes, of New York, one of the ablest and most patriotic prelates that this country has produced. This question of the teaching of sex and warning people against self-abuse was brought up at the insane hospital (or asylum, as we called it then) where I was then acting as interne. The superintendent of the asylum said to the Archbishop: "The Catholic Church is to blame for this spread of sexual self-abuse. You have opportunities in the confessional for teaching people that no other church has, and you should teach them the enormity of their sins." The Archbishop said—he was a man of magnificent presence; I remember him now, and it was nearly sixty years ago: "You may be right, Doctor; I doubt it. The less said about sex, the better for the human race. I have often shuddered, when hearing confessions as a priest, lest the questions that my office required me to ask should prove to be suggestions." There was reason in that.

What young man can take up one of Smollett's novels today and read it, with its excessive sensuality, and not have his sexual passions excited, if not a tendency to perversion? Granting, as the gentleman suggests, that sex instruction is given by sexual perverts, are you not, by teaching them all about sex from your great intellectual superiority, giving them knowledge that makes it easier for the sexual pervert to get in his devilish work? I am old enough and old-fashioned enough and have had experience enough to believe and to know that the surest protection to a woman's virtue is her modesty; that the more you talk about sex in her presence, the less modest she will be, and the more ready she

is to listen to sexual suggestions. I know that the boy who grows up in ignorance of sex, its perversions and its uses, is more likely to grow into a virtuous manhood than if some maudlin teacher teaches him that the sex question is the greatest question of the hour; that the functions of sex, the functions of procreation, are the greatest questions of the hour. Knowledge of sex and sex matters can be well left to the father and mother of the family, the family physician and the pastor or priest, if you will, but don't for heaven's sake bring sex and its perversions and its abuses into our public schools and colleges, and thus pervert and rob young people of that virgin modesty and purity which are the characteristic of American women.

R. R. WILLIAMS, Manning: Though a member for a third of a century of this Society, I never expected until this moment that I would address the chair, but some of these sentiments brought a thought to me. I have attended a great many meetings of different classes of people; I have attended medical meetings in Iowa for a third of a century. During all these meetings I have heard a great deal about the development of the physical man, and about the development of the intellectual man. That is what we are here today for; we are discussing the development and the protection of the physical man, and we are also discussing the intellectual side and attempting to instruct each other in intellectual questions. What is the cause of all this discussion of this subject? You talk about perversion; where is the perversion? We are all here today talking about physical matters, talking about intellectual matters. The perversion is this: that we are teaching two departments of man and neglecting the third or moral department. There are three departments of man: the physical, the intellectual and the moral. Each one needs to be educated and taught and disciplined as well as the others. The perversion, Mr. President, is in our teaching. Has this Society, have any of the universities or colleges or high schools of Iowa attempted to render help to the people who are trying to develop the moral nature of man? Give him physical and intellectual instruction alone and he will be a pervert. It is the duty of the Medical Society to teach morals as well as physical and intellectual improvement.

DR. MOORHEAD: I think I can tell by the sentiment here this afternoon how this house feels on this question. I have seen the sentiment expressed in a number of local medical societies, and I think it is shown in about the same proportion in this Society. If you will just take home this one thought, gentlemen, and study it over all you please, you cannot get away from its conclusion: that the child is taught somewhere between the ages of six and ten. You talk about keeping knowledge away from him: he is already instructed before you know it. I think the more you inquire into this situation, you will find that

your boys and your girls have been receiving their sex instructions from some forward boy or some dirty girl in the alley. Now, what are you going to do about it? They are instructed; what is the use of denying it? The only thing to do is to give them the right kind of instruction from the home.

THE TWILIGHT SLEEP*

C. E. DAKIN, M. D., Mason City

The most common service which we perform for our patients is the relief from pain. The benefit which we confer upon a sufferer when we lull his shrieking nerves to rest calls forth a gratitude which is the greatest of our compensations.

The great majority of our patients in pain are women, and it is the horror of the constantly recurring sacrifice upon the altar of maternity which from the beginning of history, has spurred us on in our search for suitable relief.

Artificial anesthesia forms a large part of the basis of modern surgery and we are under constant demand to extend its advantages not only to the serious, really surgical case of childbirth, but to render the normal case a painless dream instead of a nightmare of suffering.

Chloroform, since the time of Queen Victoria, has been a part of the obstetrical equipment of almost every practitioner. It is stinted or freely poured according to the individual experience of the attendant.

With it a skilful anesthetist can unquestionably render confinement almost painless, but it has many drawbacks. It often decomposes in the presence of an open flame producing irritating carbonyl chloride and hydrochloric acid, inducing aggravating cough and even fatal poisoning. It is a hindrance to efficient pains. It should not be used during the first stage which is frequently a time of severe prolonged suffering. It promotes postpartum hemorrhage by interference with efficient contractions of the uterus. There is a real danger in its mode of administration, frequently left to the patient herself or an ignorant bystander. Too concentrated a vapor may induce heart failure at any point.

Postpartum effects, serious degenerations of the liver, kidney, etc., have been laid at its door. Littig reports five deaths in the State of Iowa from the use of chloroform in obstetrical practice. These bad results are leading us to abandon chloroform in obstetrics as we have given it up in general surgery.

Ether, used exclusively in operative work, has

been slowly taken up in ordinary obstetrics. The quantity necessary to produce analgesia, the dislike of the patient to its immediate effects upon respiration, resulting nausea and vomiting, and its explosive nature have deterred many from even a trial. It shares some of the objections to chloroform in that it cannot be used in the first stage, and inhibits contractions, though I think to a lesser extent and this may be obviated in other ways.

Spinal anesthesia with cocaine or stovaine has been tried with rather disastrous results.

Chloral as an adjunct to chloroform was at one time recommended, but discarded as too dangerous.

Morphine has been very useful during the first stage to calm both the uterus and the patient from excessive action and provide needed rest, but as it stops the contractions cannot be depended upon for the later stages.

In 1902 Steinbuchel recommended the use of morphine and scopolamine hypodermically for the entire period of labor, and most extensive experimentation has been instituted not only in large obstetrical clinics but in the private practice of a large number of men. Greatly lauded at first as is every new discovery, the mass of evidence and weight of opinion would have gradually outlined its field of usefulness as it has of every other new procedure, but a new most unusual circumstance has forced our hand, and the clamor of thousands of suffering women excited by the advertising of this panacea, makes it imperative that the profession should at once take stock of its experience and be ready to announce its conclusions.

In McClure's magazine for June, 1914 two women, evidently professional writers, publish an exceedingly sensational piece of special pleading for the new "twilight sleep." They would lead us to believe that it was unknown in America or had been condemned unheard by an ultra-conservative profession. Every physician should certainly read carefully these two articles in order to be able to discuss them intelligently with his patients. The statements are said to have been submitted to Drs. Kronig and Gauss of Freiburg who have been pioneers in this procedure and to have received their unqualified approval. If that be true, I can only say that Dr. Friedmann of turtle bacillus notoriety has nothing on them. It sounds like any patent medicine advertisement and we can only wonder at the policy of the great magazine. However if I am not mistaken this has occurred at least once before with this same publication, when it ex-

ploited a serum for cancer under the leadership of a Dr. Saleeby of England who proved to be at that time a recent graduate writing presumably because he needed the money.

The illustrations of the articles are enough. They represent children two to six years old, vigorous and healthy because their mothers received an analgesic dose of morphine and scopolamine at their birth. One picture shows a child of six born in the ordinary way, and a sister of four at whose birth scopolamine was used, and the legend reads: The older child was born in the old school way and though six years old is being rapidly outdistanced in physical development by his four year old sister born under scopolamine. The articles continually bear the implication that a child's whole development and progress, physical and mental, are better if born while its mother dreams in the twilight sleep. It endeavors to impress the idea that it is not alone a question of obstetrical technique but a sociological one of the improvement of the race. One illustration bears the statement that women delivered under this anesthesia are out of bed the next day and attending to their normal duties safely in four to six days. Certainly a dangerous statement in absolute contradiction to American belief and practice. In the mind of an ethical physician this sort of advertising to the laity at once attracts suspicion to any drug or procedure. These sensational articles have been followed by others of like nature in the daily press. Listen to this from an Iowa journal.

"The first birth in Iowa under the twilight sleep. A great event that the women of Iowa may welcome with a great joy. If it is true that this treatment is one that can be readily learned and conducted by physicians of ability, a great fortune and high prominence awaits the medical man who shall establish and operate successfully a twilight sleep hospital in Iowa." We naturally expect in the near future the follow up ad with the name of the "physician of ability."

But let us disregard for a moment the unfortunate manner of birth of this wonderful infant industry and try to find out what merit if any underlies all this apparent charlatanry.

Prof. Dr. Kronig of Freiburg, the present sponsor for this method, in a paper read before the Clinical Congress of Surgeons of North America November, 1913, reported 3,000 women delivered with no deaths or other untoward sequelæ.

He admits that the frequency of pains is slightly reduced but thinks the average time of labor is not increased over half an hour. He

states that transitory states of confusion and excitement occur which are of no material importance so long as the relatives of the mother do not remain in the room, for these states of excitement make an unpleasant impression on the family. In consequence he carries out the method of twilight sleep only in cases where the relatives promise to be out of the room during the whole time of labor. This from the principal advocate of the procedure deserves careful consideration. He speaks also of an apnoea during the first moments of life from absorption of the drug, so that the child begins to breathe only after a certain time (extent not given) by the operation of the carbonic acid gas accumulating in its system. He says also that the drug scopolamine is eliminated entirely by the kidneys within two hours and therefore that any action on the child is practically negligible. It occurs to me that a great deal might happen during the two hours that the child is struggling to breathe against the influence of this powerful drug but Dr. Kronig insists that the immediate infant mortality has been actually diminished. He states that the most exhaustive inquiries concerning 500 children one year from birth reveals a mortality of 11 per cent, the same as for other children in this vicinity, so he believes they are justified in saying that there are no after effects. His reporters you remember, more than hinted at increased physical and mental powers, but Dr. Kronig spoke to a convention of scientific men while they were advertising a drug to the laity, a trade in which adherence to even ordinary standards of honesty has been cast aside along with our outgrown medieval code of ethics.

This same paper was presented before the Chicago Gynecological Society, followed by an interesting discussion.

All the physicians reported bad results, asphyxia of child, reduced strength and number of pains, increased post partum hemorrhage. One man after detailing his difficulties with it in hospital work in New York advised always to have a supply of oxygen at hand for resuscitating the child. Dr. Kronig in closing the discussion, attributed their bad results to decomposition of the scopolamine and too large dosage and to repeating the initial dose of narcophin. This name narcophin attracts our attention at once. McClure's spoke of morphium, which I passed over as a ladylike way of saying morphine, but "narcophin" is "something else again." According to the dictionary it is a proprietary double salt of morphine and narcotin. An inquiry directed to the laboratory of the American Medical Association

at Chicago elicited the response that the formula of narcophin is as follows: 29.38 per cent anhydrous morphine (equivalent to 31.24 per cent of crystallized morphine), 42.58 per cent of narcotin, 7.43 per cent of water, and 20.60 per cent of meconic acid. Narcotin is a crystalline alkaloid from opium. It is antipyretic and tonic and has no narcotic effects, and is feebly hypnotic in dosage of from 4 to 15 grains. In one quarter grain dose its effect cannot be great. Meconic acid is a derivative of opium likewise, probably of hypnotic effect, but in much larger dose than one-tenth of a grain as used in this combination. Narcophin seems to me to resemble many other proprietary remedies which depend for their action on one or more active constituents and have several others added for the psychological effect upon the prescriber, the added starters always greatly increasing the price on account of their unknown action.

So the soul of the "twilight sleep" is a proprietary drug. Is this perhaps the reason for this extraordinary advertising campaign?

Now as to personal experience with this form of anesthesia. A few years ago one of our drug houses conducted an extensive advertising campaign in behalf of a hypodermic tablet containing according to their formula, morphine hydrobromide $\frac{1}{4}$ gr., hyoscine hydrobromide gr. 1/100, and cactin gr. 1/64. The hyoscine is regarded as identical with scopolamine, and the cactin was thrown in for good measure, it being as far as I can determine a heart tonic of slow action and not adapted to the rapid result demanded from hypodermic medication. I tried this tablet with rather alarming results, and reduced the dosage to one-third or one quarter of this and even less. In a series of cases I noticed that the women were uniformly excited—even delirious, and also their relatives, and I could hardly blame Dr. Kronig for barring the latter out. The patient responded to any noise or conversation with increased excitement, and I found absolute quiet to be essential, which is almost an impossibility in a private house and unknown in any hospital. While pains kept up fairly well under the reduced dosage, the number of forceps deliveries increased perceptibly.

The babies were always more or less asphyxiated and while I lost none that I could attribute fairly to the anesthetic, they frequently remained stupid and did not cry properly for twenty-four to forty-eight hours, and I had many anxious days. Discarding this particular formula, I tried morphine and scopolamine in various doses on a further series of cases, but with no better results, and I retreated in good order having lost no pa-

tients but feeling much easier in mind to rely upon ether or even chloroform for the present.

American obstetricians, DeLee, Paddock, Dickinson, and many others agree upon their uniform bad results in using this procedure. Dr. Kronig voices his opinion that their drugs were decomposed and their technique faulty or they could duplicate his reported results. It is quite probable that he is honest in his statistics and report, and it is possible that his explanation of the uniformly bad results of the method in the hands of American obstetricians is correct, and the experiments now being carried out in our large clinics may reveal this. I hope that they do for it would help us greatly in the care of these trying cases. But at the best just take particular notice of Dr. Kronig's restrictions and think in what percentage of your cases the method would be applicable.

It should be used only in a hospital isolated from noise and other patients, or in a private house, with a specially trained nurse. The constant attention of the obstetrician is necessary from the beginning to the end of labor. No naps on the parlor sofa. The patient must sleep but never the doctor, as there is too much danger. Oxygen should always be at hand for resuscitation of the child. The family must be relegated to the neighbors or to the woodhouse. The procedure will be necessarily expensive for the constant attendance during an anesthesia of six to sixty hours will necessitate a large fee. How many of your patients would submit to the requirements, let alone pay for them? And unless all these things are carefully carried out Prof. Kronig says that the method should not be used, so let us beware of the Des Moines advice scattered broadcast by the newspaper reports, that scopolamine should be taken to every farmers wife in labor if we take nothing else. If we allow ourselves to be stampeded by this sort of reckless advertising a "green Christmas will not be necessary to produce a 'fat graveyard,'" and the ranks of Iowa's honored profession may be sadly depleted by the retaliations of an outraged community.

Note from A. M. A. Journal Feb. 13, 1915, Chicago:

Safeguarding Against Scopolamin Casualties.—The authorities of Michael Reese Hospital announce, as the result of their experience after a series of about forty obstetric cases treated by the scopolamin-morphin anesthesia, the so-called "Twilight Sleep," that they will not use this method in labor except with the express guarantee of the patient that the hospital shall be free from all liability as regards ill results to the mother or the child.

REPORT ON CASE OF PELLAGRA

F. A. ELY, M. D., Des Moines

It is probable that Pellagra is much more prevalent in the northern portions of the United States than was formerly believed. Here and there throughout our northern localities cases are from time to time being reported. In view of the fact that this disease was formerly believed to be endemic to certain southern states, as well as to portions of Africa, India and Italy, and that it was also formerly believed to be due to some vegetable or animal organism fostered and harbored by fermenting or disintegrating corn foods, it may be proper to report the following case of Pellagra which has developed in a patient who for forty years has been a continuous resident of Iowa, and whose diet has been rather free from any extensive use of corn foods.

Examination and History

Mr. J. W., male, married, age 55, American. Father of three healthy children. Wife has had no miscarriages or still births. Denies lues or venereal disease. Up to eight years ago followed farming for a living; since then has been a painter and man of all work. Has never had any serious illness or accident. Family history negative.

In the early fall of 1913 patient was employed doing odd jobs at the State Fair Grounds at Des Moines. After working a week or so patient noticed that he had developed what he believed to be an unusually marked sunburn on the backs of both hands, and he simultaneously experienced a sensation of weakness and paraesthesia in his feet and legs. The sunburn on his hands was confined to the dorsal surfaces and did not extend above the wrists nor upon the flexor surfaces. He paid little attention to these symptoms, resting assured that the erythema would soon pass away. During the late fall the eruption vanished spontaneously from his hands, but the nervous symptoms persisted and even became more marked. He felt unsteady on his feet; the lower extremities felt weak and clumsy. The upper extremities became more or less tremulous, and there was at one time a transient diplopia. At no time was there loss of sphincter control. In February of 1914 the erythema once more appeared and fluctuated somewhat in severity. During the following June the so-called sunburn became more marked, and there was some exfoliation. About this time a severe diarrhoea began, which persisted for about four weeks, and was attributed to the medicine he was taking, viz: Bland's Improved Pills.

On inquiry patient's wife states that since the onset of the disease he has constantly shown a tendency to both physical and mental inertia; that he is apathetic and dreads physical exertion; that his memory seems rather poor, and that he is depressed and melancholy.

There has never been any history of abdominal pain or severe discomfort.

Physical examination reveals a male individual about five feet seven inches tall, rather poorly nourished, and giving one the impression of mental apathy and anemia. The gait is spastic-paretic? Station rather uncertain, there being a slight Rhomberg. The pupils are small, rather irregular in outline, but respond to light and distance. The cranial nerves are negative. The triceps and tendon reflexes of the fore-arms are possibly a little too active. The patellar and Achilles reflexes are exaggerated, and a double Babinski can be brought out. Co-ordination of both upper and lower extremities is not appreciably disturbed. There is little or no objective change in sensibility in any surface of the body. Subjectively there are paraesthesias of all four extremities, and a feeling of heat and prickling in the hands. The tongue seems to be unduly red, but aside from this the buccal cavity presents no abnormality.

The dorsal surfaces of both hands present the aspect of a cutaneous surface that has been slightly burned in the course of X-ray therapy. The erythema is diffuse and ends rather abruptly at the wrists at about the place where the extremities begin to be covered by the coat-sleeves. There is some redness on the dorsal surfaces of the proximal phalanges, but this shades off toward the finger tips. There is no evidence of redness on the palms of the hands, and very little on the flexor surfaces of the radial sides of the wrists, though a little may be observed on the ulnar sides. There have been no vesicles or blebs upon the erythematous areas. By keeping the hands covered, the cutaneous symptoms improve, and the cold winter months seemed to have some influence in causing an abatement of the skin symptoms.

A blood count in this case shows hemoglobin 75 per cent. Reds 4,000,000. Whites 8,000. Polymorphonuclears 68 per cent. Transitionals 4 per cent. Large lymphocytes 12 per cent; small lymphocytes 16 per cent.

Urine analysis shows: Reaction acid, Sp. Gr. 1020. No albumen, no sugar, and a few epithelial cells.

A Wassermann of the blood made by Dr. Julius Weingart of Des Moines shows a negative reaction.

In view of the fact that in this case we have a recurring symmetrical erythema confined to the dorsal surfaces of the hands, which is more marked in hot weather and improves in cold weather, and that in addition we have marked evidence of organic nervous pathology involving more particularly the crossed pyramidal tracts of the cord, and that we further have a progressing tendency toward mental apathy and physical debility unaccounted for on the ground of nervous syphilis or any other organic disease, and that at one time for a period of one month the patient suffered from a severe diarrhoea, which he at-

tributed to Blund's improved pills, it would seem that a diagnosis of Pellagra is justified.

The chief points of interest in this case, aside from the diagnosis, are that the patient has lived in Iowa for forty years and has not been a user of corn foods to any extent.

In connection with the modern theory of a parasite being transmitted to the human by a variety of fly known as the *Simulium*, it might be suggested that even though such a fly may not be indigenous to Iowa, some of the imported cattle brought to the State Fair may have been responsible for the presence of such an invader, cattle from many districts of the world usually being exhibited yearly at the fair grounds where this patient was working when his trouble made its appearance.

In addition it may be said that this case cannot be attributed to any contact with another person suffering from Pellagra.

[It was through the kindness of Dr. Guy E. Clift of Des Moines that the writer was permitted to see this case in consultation.]

SUBMUCOUS RESECTION OF NASAL SEPTUM*

F. E. V. SHORE, M. D., Des Moines

The nasal septum is the perpendicular bony cartilaginous partition of the nasal passages; the bony portion is formed by the perpendicular plate of the ethmoid above, the vomer posteriorly and below, and the crests of the nasal, sphenoid, maxillary and palatine bones and spinal crest of the frontal. The triangular cartilage occupies the space left by these bony articulations. The cartilage and each of the bones has a separate covering which completely envelops it. The perichondrium of the cartilage is entirely separate from the periosteum of the bones, and the periosteum of each bone is distinct from that of the other bones; nevertheless there is a blending of these coverings where they come in contact. This is markedly so between the cartilage and maxillary crest, and the cartilage and vomer; and to these reflections are due the difficulties attending operative interference for the correction of septal deviations.

These deviations are usually the result of a blow or fall, which at the time may have occasioned no appreciable annoyance; nevertheless a disturbance of septal relations occurs, which continues progressive until the health becomes impaired from one of the many complications which may result. The deviation may occur,

however, from lack of sufficient space between the cribriform plate of the ethmoid and the bony floor of the nose for the proper development of the septum. The closure of one nostril in the act of constantly blowing the nose is thought to be a cause of deviation. As the result of the deviation, obstruction to one or both nasal passages occurs, and the air, which naturally is warmed and moistened in its passage through the nose, enters the lungs through the mouth unprepared for respiration. This results in an impairment of the patient's health and a lowering of resistance to bacterial invasion, with resulting infections of the accessory sinuses. Pulmonary affections develop from the unpreparedness of the air for respiratory purposes. Pressure of the deviations on the canals of accessory cavities obstructs their normal outflow, resulting in vague head pains and neuralgias. The sensitive nerve filaments supplying the deflected prominence are subjected to dust, vapors and climatic changes, producing asthma, hay fever and head colds. Many of these deflections produce high, narrowed palatine arches, protruding upper teeth, and loss of apposition of upper and lower teeth—conditions such as result from adenoids and enlarged tonsils. Although the deviation to one side is completely compensated by the increased space in the opposite side, in some of these cases there is produced by the unnatural enlargement of the cavity a predisposition to ozena or accessory infections. Defects of hearing develop early from interference with middle-ear ventilation.

The necessity for correcting a deviation productive of so much harm becomes apparent, but if no untoward symptoms or disturbance of nasal function exists, it would be very imprudent for any operator to attempt interference for the sole purpose of producing ideal lines. It is, however, sometimes very difficult to determine the deleterious influence exerted by a deflected septum. I recall a patient who was referred to me for the relief of severe pain on the side of the nose. He had had no fever or nasal discharge, but, owing to a very extensive septal deviation, it was impossible to determine the condition of the sinuses except by illumination and skiagraph, each of which gave negative results. I resected the septum, believing it to be the underlying cause, but to my surprise the pain returned as before, and in addition he developed a temperature of 105. It was at once apparent that the pain was due to sinus infection. An application of cocaine and adrenalin relieved the pressure and established the drainage, with a sudden return of temperature to normal. When the septal flaps had become sufficiently secure, I opened the

*Read before Winnebago-Hancock Medical Society.

sphenoid, with complete relief from pain as the result. Of course the deviated septum was the underlying cause, and in no way could the sinus have been opened without the septal resection; but the dangers of an infected flap or a general infection are so great that one would hesitate long before proceeding to a septum resection if convinced of the infected sinus.

Some of the evil effects of septal deviations were long since recognized and efforts made for their relief. We had the stellate puncture; the Ash method of cutting through at right angles and forcing the deviated portion back beyond the median line; and later the Gleason method of cutting a window, through which the deviation was pushed. I have performed each many times, and can well recall the aims and results obtained by these older methods.

In the Journal of December 5, 1903, Freer described his submucous resection, and in 1904 Killian described his. Killian had undoubtedly presented and explained his operation to medical societies as early as 1899, but the priority of publication belongs to Freer. A great controversy arose as to the originator of the operation, and even to this day a conscientious difference of opinion exists. The stellate puncture and those of Ash and Gleason retained the entire septum, while those of Freer and Killian are intended to remove the distorted portion, that its presence may no longer prove a menace to its peaceful neighbors.

While the operations of Freer and Killian are widely different in their technique, the object sought is the same in each; so that it becomes a matter of individual preference which is performed. At first I performed the Killian with the Hajek modification and the Ballenger swivel knife; but difficulty in raising the flaps at the anterior margin of the cartilage induced me to adopt the Killian without modification until one year ago. While attending the meeting of the Congress of Surgeons in Chicago I was pleasantly surprised to receive an invitation from Dr. Freer to assist him in one of his submucous resections, and I became so thoroughly satisfied with the advantages of his technique that I have since that time used his method with such modifications as increased experience suggested.

In the Killian operation, a vertical incision anterior to the deviation is made through membrane and perichondrium to the cartilage, and through this opening the cartilage and bones are stripped of their covering and the distorted cartilage and bone removed; while the Freer operation raises a flap on the deviated side by means

of an L incision and removes the cartilage and bone from their perichondrium and periosteum of the opposite side. The cutting instruments for primary incision, division of cartilage, division of perichondrium and periosteum, are prepared with a keen edge. About fifty wooden applicators, previously boiled, are tipped with cotton for sponging. The patient is placed in a semi-recumbent position, iodine applied to the hairy portion of each nostril, external nose and upper lip. A ten to twenty per cent cocaine in adrenalin is applied freely to each side. The instruments and dishes are all boiled. Two trained assistants are necessary throughout the operation. A vertical incision through membrane and perichondrium is made anterior to the cartilaginous ridge and down to the floor, where a second one is carried back along the floor beneath the bony crest. The mucous membrane and perichondrium are now raised over the free cartilaginous surface back and down to the reflection of the perichondrium. The membrane and periosteum are raised beneath the bony crest, and with a sharp cutting elevator the perichondrium and periosteum are divided at their reflections. The flaps are now raised and held out of place by a retractor. Two other retractors are introduced in the nares so as to bring the operative field clearly in view. The cartilage is now divided superiorly above the deflection and anteriorly in front of the ridge, and is removed piecemeal until the bony crest is reached, when the periosteum and perichondrium of the concave side are divided with a sharp instrument and separated with a raspatory.

At this point in the operation I plough a furrow through the horizontal plate of the ethmoid to avoid its separation at the cribriform plate. With a Mietzenbaum chisel the bony ridge is now removed. The flap is returned to its place and gauze tampons applied for twenty-four hours to retain it in place. At the end of forty-eight hours the patient is permitted to take gentle exercise. After removal of the tampons a dusting powder introduced by inhalation is quite sufficient protection, without the necessity of plugging the nares.

The objections which have been made against the Freer are that it requires two experienced assistants; that in the horizontal incision the ciliated epithelium has been replaced by squamous epithelium, which interferes with the capillary drainage of the nose, the secretions being arrested by the scar, with crust formation as the result; the length of time consumed; that the flap being raised from the convex side, there is great danger of perforation at the thinnest point in the concav-

ity opposite; the tendency which every flap has to contraction results in the healing in part by granulation, with the corresponding delay in recovery.

It is undeniable that the operation is tedious, but it is my observation that the incomplete and improperly performed ones are those of rapid execution. As the cartilage is raised piecemeal from its perichondrium of the opposite side, the dangers of perforation in raising the membrane over the cartilage are very slight. The dangerous point in the execution of the dissection is at the juncture of the cartilage and bone, where it is essential to divide the periosteum and perichondrium with a sharp instrument. It is true there is a space anterior and also inferior to the flap which must heal by granulation; and it is also true that lack of capillary drainage along the horizontal scar results in more or less persistent crusts. So prominently were these objections demonstrated in my own practice that I have adopted the Yankaeur modification of the Freer operation so that in place of making the muco-periosteal incision below and raising the flap I now make the muco-perichondrial incision above and permit the flap to fall down and out. Since the adoption of this modification my results have been more ideal than formerly.

Kreschmann's method of operating through the mouth presents too many disadvantages to be seriously considered.

In conclusion I wish to express my unbounded faith in the modern septal operation, and I believe a more thorough familiarity with the baneful influences exerted by the distorted septum will result in relief to many of your obscure cases. I believe the flap operation of Freer, with its modification by Yankaeur, a great improvement over that of Killian, as it is not done under cover through a slit, but under free inspection at all times, thus lessening the dangers to the membranes in their separation from the cartilage or the bony crests. The removal of the cartilage is more carefully done and the remaining horizontal strip more uniform in width than is possible with the uncertain course taken by the Ballenger knife.

THE VACCINE TREATMENT OF INFECTIONS*

M. G. SLOAN, M. D., Des Moines

Immunity against bacterial disease may be a natural condition, or it may be artificially induced. In cases where natural immunity is deficient or absent, the artificial induction of an in-

creased state of resistance, or active immunity is the purpose of vaccine therapy.

Except in one or two instances I have used only the autogenous vaccines; and it seems to me that the use of the stock vaccines and especially the mixed variety is unscientific and not unmixed with danger. Phylacogen I have used in one case only, and I am sure nothing would tempt me to another trial of it. It was a case of chronic articular rheumatism of many years standing, in which many remedies, orthodox and otherwise prescribed by many doctors had utterly failed to give relief. Some member of the family had heard of the wonders performed by phylacogen in such cases and they insisted that I should give it a trial, which I proceeded to do, though with some misgivings. Six doses were duly injected in strict accordance with the directions accompanying the remedy. After each dose there was considerable reaction as shown by general depression and rise of temperature as well as by increased pain in the affected joints. After the sixth dose the patient and her friends as well as the doctor were willing to quit. She has never been as well since this experience.

Concerning the possible dangers of these vaccines I quote from Victor C. Vaughn, president of the American Medical Association.

Every time an unbroken protein is introduced into the body it carries with it and as a part of it, a poison. From the very careless, rash, and unwarranted way in which vaccines of most diverse origin and composition are now used in the treatment of disease, this matter certainly cannot be understood, or its dangers appreciated by those who subject their patients to such risks. It should be clearly understood that all proteins contain a poisonous group—a substance which in a dose of .5mg injected intravenously kills a guinea pig. This poison is present in all the so-called vaccines now so largely used and it is not strange that death occasionally follows the use of phylacogen or similar preparations. Not only do these proteins contain a poison, but when introduced parenterally the poison is set free, not in the stomach from which it may be removed, but in the blood and tissues. It is possible that vaccine therapy may become of great service in the treatment of disease. Even now there are occasional brilliant results which are reported, while the failures and disasters are not so widely advertised.

It certainly seems reasonable that the possible dangers may be presumed to be much less with the use of the autogenous vaccines than with the stock and mixed varieties. My own experience in the use of vaccines is practically limited to the colon and staphylococcus varieties, and has been very satisfactory. Especially in cases of furunculosis where the boils come in successive crops

*Read before the Polk County Medical Society, October 27, 1914.

have I found the use of the autogenous vaccine a specific, at least so far as my use of it goes. In twelve successive cases there has been no failure with the use of seven to fifteen doses at five day intervals. The commencing dose in adults has been about 50 million and this has been gradually increased to about 500 million dead staphylococci. Children under one year of age may be given 20 million as a commencing dose. At the Iowa Children's Home there has been this summer almost an epidemic of boils complicated in almost every instance with a severe vesicular eczema. There was a rather slow spread of this combination of eruptions from the first case, until seven babes all under six months of age were suffering from it. A careful investigation convinced me that the infection must have been conveyed from the sick to the well babes by means of the fingers of the attendants, as the diapers and underclothing were thoroughly boiled. In spite of alcohol dressings and various antiseptic applications, the trouble constantly increased in seriousness. On July 15 I obtained some pus from one of these babes, and with it inoculated a culture medium from which Dr. Wm. E. Sanders of this city made a quantity of vaccine. Of course the resulting product was not strictly autogenous except as to the babe from whom the pus was taken but as it seemed probable that the staphylococci must be all of the same strain, I thought it safe and proper to use the vaccine on all seven of the little patients. The result seemed to prove the correctness of that view. On account of a low resistance—the babes were all poorly nourished, and all illegitimate—the infection was unusually severe. This was shown by the number and size of the boils. On one day I incised forty on one babe, and quite a number of them were of good size. The contagiousness of these lesions was so marked that in spite of all we could say, numbers of the nurses left the institution because of their fear of being themselves infected.

The fact seems to be that no person who was healthy, or in other words was possessed of a normal immunity was likely to be in any way endangered from handling these cases. Every one of these babes gained nicely in weight, and became possessed of a clean healthy skin after the injection of six or seven doses of the vaccine.

Of peculiar interest to me was the case of a woman aged about 50. She was a chronic diabetic of many years standing, and came to me to see if I could do anything for the constantly recurring, large, and extremely painful boils from which she had suffered for many months. I could find no precedent for the use of the vaccine treatment in infections in diabetics, and so

informed her: at the same time telling her that I could see no likelihood of it doing her any harm. In her case the infection was a little slower to yield than in most of the others, but the final result was very satisfactory. We could notice no effect whatever on the diabetic condition. The B. Coli vaccine I have not found so uniformly satisfactory, though in every case there has been decided improvement. In one case, that of Mrs. C., aged 63, one kidney had been removed surgically some months previously on account of a suppurative condition with hemorrhagic complications, the remaining kidney being thought at that time to be healthy, the few pus organisms obtained from that side by ureteral catheterization supposedly coming from accidental contamination. However, after the operation wound had thoroughly healed, we found that the remaining kidney was furnishing some pus containing colon bacilli in large numbers. Though the urine was persistently acid, hexamethylenamin made little or no impression on the numbers of colon bacilli present, though it was given in doses of 10 grains every six hours for several months. The use of the autogenous vaccine was then begun and continued for more than a year, the final dosage being about one billion. At the end of that time the general condition was greatly improved, but a few B. Coli could still be found in a catheterized specimen of the urine.

After several months of non-use of the vaccine there is no perceptible increase in the number of bacilli present. Since writing the foregoing I have found in the Journal of the American Medical Association, a synopsis of a paper read at a recent meeting of the Kentucky Medical Association by Dr. John D. Allen of Louisville, in which he says that his most satisfactory results have been obtained in infections of the genito-urinary tract. Out of forty-eight cases of acute and chronic pyelitis and cystitis, forty-one made complete recoveries. Thirty-five of these infections were due to the colon bacillus, and two to the bacillus pyocyaneus. The other two were mixed infections due to the colon bacillus and staphylococcus aureus, and in addition two of the cases of cystitis showed the gonococcus. Seventy-five cases of chronic gonorrhœa which showed the gonococcus, the staphylococcus albus and a diphtheroid bacillus, showed improvement, and the majority made a complete recovery.

I think there can be no question but that in properly administered autogenous vaccines we have a fairly successful method of treating a large class of infections in which heretofore we have been practically helpless.

A CASE OF HAEMOPHILIA TREATED
WITH HORSE SERUM

G. F. DOLMAGE, M. D., Buffalo Center
Mr. T. K. referred by Dr. F. N. Beam, Dentist.

Entrance complaint; bleeding from gums following extraction of teeth.

Social History.—White, male, age 28, single, born in Denmark, no alcoholic or venereal history.

Family History.—Father, mother, two brothers and two sisters, alive and well. No other bleeders in immediate family. Mother's brother died at age of 12 from hemorrhage from slight wound on face. One of mother's male cousins, mother's father, and several of the males on the mother's side, for several generations back, were bleeders.

Past Medical History.—Measles and mumps. He states he had a severe hemorrhage following the extraction of a tooth when twelve years of age. Has been more or less troubled with nose bleed during entire life.

On September 17, 1914, had the roots of six upper molar teeth extracted with a slight hemorrhage at the time which became very profuse six hours later. Patient was given calcium chloride 80 grains, potassium iodide 30 grains, thyroid gland 15 grains each, daily, until October 2 with no effect. September 20 was given 60 cc of diphtheria serum subcutaneously with no result in checking hemorrhage. On September 22 patient was very weak from continuous loss of blood although the alveolar sockets were kept packed continuously with adrenalin tape. His blood count on this date was reds, 2,110,140. whites, 3600, hæmoglobin 40 per cent. Blood after standing one hour and a half formed only a very soft clot. On September 22 under ether anæsthesia each alveolar socket was cauterized with the actual cautery; this stopped the hemorrhage from the sockets until the eschar separated when the hemorrhage again became profuse. September 28, 120 cc of diphtheria antitoxin was given intravenously with little reaction and no effect upon the hemorrhage. By September 30 patient was so weak from continuous loss of blood he was unable to walk. On October 1 one quart of blood from a two year old horse was defibrinated and then centrifuged and placed on ice for twenty-four hours. October 2 120 cc of the defibrinated horse serum was given intravenously through the median basilic vein. Patient suffered much shock during the latter part of the injection. Hemorrhage ceased at the

end of five hours following the injection. Temperature at that time was 101, pulse 120, respiration 22. Twelve hours after the injection of serum patient developed a severe urticaria with much edema over entire body. 30 cc of the serum prepared on October 1 was given intravenously 48 hours after the first injection. Patient was kept in bed for one week longer when he was able to resume his work.

In conclusion.—Calcium chloride, potassium iodide, and local styptics were of no value in checking hemorrhage, neither was the commercial horse serum. No doubt the freshly prepared horse serum saved this patient's life.

I am indebted to Dr. F. N. Beam, D. D. S., for kindly referring this patient to me and to Dr. F. J. Kurtz, D. V. S., for assistance in preparing the serum.

ANNUAL ADDRESS BEFORE THE POLK
COUNTY MEDICAL SOCIETY

GRANVILLE N. RYAN, M. D., President

Fellow Practitioners and Invited Guests:

It is with great pleasure that I bid you all a most cordial welcome, tonight. It is difficult for me to realize that one more mile post in the history of our Society has been reached. I trust with the passing of the old and installation of the New Year that individually and collectively our members are better equipped to serve humanity efficiently. And that each and every one is thoroughly imbued with the scientific desire of further conquest into the difficult problems of etiology as well as treatment. The twentieth century has ushered in a new era in medicine and finds the pendulum of conservatism in medicine, as well as surgery, swinging into every medical center, and with every stroke the "novice is counted out."

The public is demanding correct interpretation of laboratory findings, in connection with the physical, as well as a surgical technique that is most *reassuring of the best possible results*. This is the dawn of the new era in medicine, and prophylaxis is the slogan. The laity are demanding preventive medicine, and *that necessarily* means, that we, as practicing physicians, must burn some of the midnight oil, to be able to keep in the front ranks. It means the survival of the fittest, and yet there is not one honest, conscientious, physician in the profession who would not have it so. The clock has struck, for the quack, the charlatan, the abortionist, and the patent medicine vendor, and each of them is finding it hard to *locate any fertile field* where they are al-

lowed to fleece the unsuspecting public at their own sweet will.

The medical profession owes a debt of gratitude to a number of the leading magazines and newspapers of this country; the Ladies Home Journal, Colliers, The Chicago Tribune, Record Herald, The Des Moines Daily Capital and many other periodicals, too numerous to mention. Senator Young's stand is worthy of the highest commendation and appreciation by our profession. When an editor will take such a stand and turn down financial propositions made by the patent medicine vendors and the quacks, his publication should be marked "Class A" and a clean bill of health given to his efficient staff.

If I may trespass on a few minutes, of your time I shall be pleased to review a few of the many valuable points from the internist's standpoint, gleaned while in company with Dr. Fairchild, Sr., and a host of other good fellows on our European trip enroute to the International Medical Congress in London last year.

In Paris, at the hospital Pitie we met Professor Jose who is one of the leading internists of the continent. In his typhoid wards we found quite a remarkable record due to his form of treatment. Immediately upon the arrival of the patient, a specimen of blood is taken, examined, and an autogenous vaccine is made—two hundred million germs are given either intravenously or subcutaneously. Three doses twelve hours apart are given. When seen early he stated that he cured them in from three to five days and that they respond in from eight to ten days if seen late. He also showed the advantage of having the wards and rooms wired for the use of the electro cardiogram. The records being made in the laboratory when the patient was allowed to remain in bed on the same floor or two to three floors above.

We also saw Dr. Frankel's methods of re-education in tabes and at Hotel Dieu Professor Reclus demonstrated local anæsthesia. He used it to the exclusion of all general anæsthesia, and although seventy-six years of age, was a very active surgeon.

Professor Bertillon invited us to the municipal laboratory where he demonstrated his well known measurements and finger prints of criminals. His classification is so complete that it only required a few minutes to give a complete record of any criminal if it had been previously recorded, even though many years had elapsed.

The Academy of Medicine in Paris is composed of forty members. One has to be a recognized authority to be admitted. Thus the membership is composed of elderly men largely.

Pasteur was refused admission on account of his theory of the disease of grapes being due to an infection while the members being committed to the theory of spontaneous generation. He was later admitted to membership (1873) and became one of its greatest leaders. (French Academy 1882.) At his great institute, we saw the first patient treated for hydrophobia. His name is Joseph Meister. He was bitten by a mad wolf while trying to protect a little girl that was attacked by the wolf. Hydrophobia appeared certain and Pasteur treated Joseph by immunizing injections and saved his life. Joseph is now custodian of that great institute. The city has a beautiful bronze statue erected in front of the institute signifying Joseph killing the wolf. The tomb of Pasteur located on the first floor of a wing of the institute, was visited. The inscription read "Here reposes Pasteur," 1822-1895. How different it is from the tomb of Napoleon—one, the great preserver of human lives—the other the great destroyer. He received his remuneration from the city which never exceeded twenty-five hundred dollars a year. In this great institute contagious disease wards are so arranged as to prove that you can isolate contagious cases and keep them in the same ward, with glass partitions between. Sterilized gowns, caps and gloves are worn.

The Beaudelocque clinic was visited. It was first an abbey, then a prison, then a hospital. It was here that Tarnier commenced his wonderful work. His school of midwifery is still in existence. The leading obstetricians advised Cæsarean section rather than high forceps delivery. Many of the rooms in this noted hospital are named after the celebrated physicians, thus perpetuating their memory. At hospital Cochin we were met by Professor Widai, who was very courteous, and was generous in compliments for American physicians and surgeons, as well as our research workers. He spoke of the extensive work done on nephritis by various French internists including himself, and said that it had caused considerable comment by internists of other countries. He grouped the different forms of nephritis in the following manner: (a) Chronic Alb. Nephritis; (b) Hydro pigmentous Nephritis; (c) Hydro Nephritis; (d) Chronic Hypertension Nephritis. The first step necessary, he says, to make a differentiation, is to make the filtration test, which is done by making a deep injection of methylene blue 5 per cent solution into the buttocks, and watch the elimination through the kidneys. If the absorption power is normal it will be detected in the urine in half an hour. By comparing length of time for elimination with the

normal elimination you get a good line on the extent of the kidney tissue involved. The second step is to examine the blood for urea and compare the ratio of the per cent with the normal. Third is to compare the ratio of the salt intake and output. The fourth step is to take a careful reading of the blood pressure.

In Munich the new City Hospital was large, accommodating about twenty-one hundred—and it seemed to us that the last word had been said in its equipment. All foods, including milk, were inspected and analyzed in *their commodious* laboratories. A registered pharmacist was retained day and night for the filling of prescriptions. Prof. von Muller who is now president of the International Congress, acted as toastmaster at a delightful garden party given in our honor on the first evening of our arrival. The next day we were invited to his clinic, and a large number of interesting cases were presented. His work, with the X-ray on the heart, and lungs, was most interesting. He makes skiagraphs of all of these cases. In speaking of treatment he advocated induced pneumothorax, and used either nitrogen or oxygen for this work, but preferred oxygen in acute cases. He was especially careful not to make too much pressure as the adhesions would be broken up and an emphysema would follow with great shock. If complicated by effusion, the patient would decline rapidly. Results are watched with the X-ray. Pneumothorax lasts six months. He was not enthusiastic over lung surgery, especially the Schede operation. In speaking of excretion of the kidneys, he said if the output of salt and water was normal there would be no œdema. If nitrogen was not eliminated there would be uremia present. Lead had same effect on the kidneys as nitrogen, and same type in acute uremia as in acute lead poison.

Meyer of Munich was conducting a most interesting clinical and experimental investigation of the effects of salvarsan on the fetus in utero. He found the arsenic in the placenta, but could not positively state that it would penetrate every syphilitic placenta, also that the success of the treatment on the infant would depend upon the success of the treatment on the mother and would be an excellent prophylactic for the infant. Salvarsan was well-borne by the expectant mother and when used intravenously did not cause hemorrhage or signs of miscarriage, and he advised that all expectant mothers of theluetictype should be given salvarsan as well as mercury, and

he had never seen a fatal termination of the child by such treatment.

The work of Emil Abderhalden of Halle, in the last two years has opened up responsibilities in diagnosis and opportunities in promising new lines of investigation that have been hitherto undreamed of. The basic discovery of Abderhalden was the fact that when an organ underwent degeneration so that its characteristic proteid passes into the circulation, there is developed in the blood a proteolytic ferment, specific for the albumin of the organ in question, and that this ferment may be readily demonstrated in the serum by comparatively simple laboratory methods.

The most general practical use made of this new reaction is in the serum diagnosis of pregnancy which Abderhalden claims should show 100 per cent correct results after the eighth day. But very interesting results in infectious diseases, diseases of metabolism, cancer, syphilis, etc., promise great light on many obscure problems, as well as definite help in diagnosis and treatment.

If time permitted, I would be pleased to speak of von Pirquet's excellent work in pediatrics. Professors Wassermann, His, von Norden, Doderlin the obstetrician, and Wertheim the noted gynecologist, von Eiselberg, Bier and other great surgeons; Prof. Chieari, the laryngologist, who had operated 90 cases of malignant disease of the larynx, nineteen of them being total extirpation, with but two deaths; and the most interesting laboratories and Spas we visited, but time will not permit.

Ladies and gentlemen, as you all know, practically all of this has been crushed and the scientist with the laboratory worker is beating time to martial music and applying first-aid dressings. It is surely a great satisfaction to know, however, that we are not compelled to look to foreign fields to recharge our batteries in surgery, medicine and research work, but to any of our great medical schools of our own country. It is with great pleasure that I am able to state that one of these great schools is represented here tonight by its dean of medicine; a man who stands in the front ranks among leading internists of our country, Professor Chas. Spencer Williamson of the college of physicians and surgeons, which is the medical department of the University of Illinois, who will address us on "Some Misconceptions in Diseases of the Heart with Suggestions as to their Correction."

ADDRESS OF THE PRESIDENT OF THE IOWA STATE SOCIETY OF MEDICAL WOMEN*

FLORENCE BROWN SHERBON, M. D., Colfax

I am glad and proud to have the privilege of opening the 17th annual meeting of the Society of Iowa Medical Women. Glad because it is the "17th," and not the first or fifth or tenth, since we are reaping the benefit of the earnest and efficient effort which has welded our association into a consistent and harmonious whole, and because each added year brings new and cumulative richness of experience.

Then I am glad because we are "Iowa" women, being born, reared and educated in Iowa, I am a firm believer in the doctrine that Iowa is indeed the "Garden spot of the world," a place where human beings ought to dwell in industrial peace, economic prosperity and above all in physical health. We have an ideal balance in climate, the richest soil in the world, and plenty of it per capita, and industrial centers just right for convenience of manufacture and exchange without undue congestion of population. Now why should it take 3,733 physicians, not to mention numerous "paths" and "practors" to patch up the physical ills of its inhabitants? But more of this anon. I will now resume my rejoicing.

I am eternally glad, next to being born in Iowa, that I was born a "woman," with the "divine seal of perpetuation" in my breast. Glad that I belong to the "mother sex," to whom it is given to pass along the torch of life and keep the fires forever burning at the altar of Creation.

I am glad that I am a "20th century" woman, that I may ride into harbor on the crest of the wave of the feminist movement (due to arrive in Iowa about 1916); glad that I am alive when, for the first time in the evolution of the race, woman begins to life her head and look her Maker in the face, and say, "Male and female created thou us," give me to perform my maternal function *untrammelled*, to the end that this world may become a fit abiding place for men, women and children.

Then above all, I am glad I am a "Medical" woman. That I may look into your faces and sense that fellowship which comes with the sharing of searching and profound experiences. Glad for the unique opportunities and obligations for human service which come to medical women, even though these lead deep into the naked actualities of life.

I want today to talk over some of these op-

portunities and obligations from a woman physician's point of view. The world has long taken the stand that the good woman must know as little as possible of the hidden things of the world. But to the medical woman there is little hidden. The skeleton in the closet may escape the eye of the friend, the relative, the priest, but there comes a time when to the physician the door must open, and she beholds its hideous, gibbering, mocking form, and does what she can to heal the venom of its wounds. She then goes forth with sealed lips, and learns in time to go from scenes which stagger her philosophy and weigh down her soul with a serene brow and a calm word for the next sufferer.

But as she looks upon the naked heart of humanity in its suffering and in its guilt; in its shame of weakness and glory of sacrifices; sees it crushed under social injustice, starved by economic wrong, twisted and beaten by forces beyond its understanding or control, and in many, many instances antidating its existence, she cannot remain human and not long with a longing unspeakable, to weld a tool in the white heat of these confessional fires and with it liberate humanity, especially the little children, from the shackles of tradition, heredity and superstition with which they are bound from the hour of their birth.

People sometimes say, "How strange that physicians should be the ones to be striving for the health of humanity, when its ills supply them with the bread of life." We will in time awaken to the irony of this situation, but the real wonder is that we do not join in a crusade and give the world a unified effort which will sweep it clear and clean of preventable disease. Much is being done, and one by one the strongholds of crime which we now know to be a disease, and disease which we now know to be a crime, are falling. But the whole system of health ministration needs reorganization. It is distinctly illogical to place anything of such intrinsic economic and social value to the state as is the life and health of its citizens, at the haphazard mercy of individuals at large who labor under the curious ethical dilemma of being bound by conscience to teach people to do without their service.

There should be no such thing as a physician practicing for gain, with the consequent opportunity and temptation for fraud and dissimulation to assume the guise of the healing art.

The science and art of health should be the states best gift to its people, and incidentally its best investment and highest economy. Preventable disability robs the individual of his income,

*Delivered before the Iowa State Society of Medical Women, Sioux City, May 12, 1914.

his pleasure, often his life. It robs the state of its rightful share in the productive quotient of his life and productive quotient of other lives sacrificed to the care and support of this man during his disability.

The state (which is but another name for the general consensus of opinion), recognizes this in a measure, and has gone so far as to establish state and local boards of health. This is an important step in the evolution of the efficient system, but as yet these boards are chiefly negative in function, going little further, as a rule, then to say "Thou shalt not commit the grosser crimes against the commonly recognized laws of community health." In short, an individual may commit any crime against his own and his families' health which ignorance or wilfulness dictates until he flagrantly jeopardizes his neighbor's health. Then the state steps in and exercises a measure of restraint. These state and local boards of health moreover are usually meagerly equipped for research or investigation, and are supported with a niggardliness which is a reflection upon our patriotism. When the people of our own state of Iowa, for instance, once demand an equal, if not greater generosity, in the scientific investigation of conditions making for the health and productive efficiency of its citizens to that which it now manifests toward the agricultural assets of the state, we may then be able to tell how many babies are born in each year just as we now know how many bushels of corn are raised per acre, and figure out our rate of infant mortality with the same accuracy we now estimate hog cholera mortality, and have something left over for effective investigation of the conditions attendant upon our infant mortality which is altogether very much greater than it should be.

An inquiry recently made in Iowa by Dr. Boyd of Boston reveals the fact that of the 27 towns investigated, ranging in size from 2,000 to 33,000, only one, Oskaloosa, (a town of about 9,000) has a full time health officer, and that only for the past year. In 1912, Oskaloosa had a death rate of 13.5 per 1,000, in 1913 with the increased attention to public sanitation which this one man was able to give, the death rate fell to 10.8 per 1,000. Surely the lives of 27 people were cheaply bought by this small expenditure.

These 27 towns spent last year an average of 10.6 cents per capita, per year for the protection of the health of their citizens. Oskaloosa, with the increased expense of full time health officer raised her per capita expense to the extravagant sum of 15 cents per capita for the year. In a

number of these towns the local board of health sits but twice a year, and in all but one, as before mentioned the official duties of the health officer are an extremely small side issue. Dr. Boyd says very truly "a health officer who in addition to giving his attention to the health of the city or town, endeavors to practice medicine, will always work at a disadvantage. He will as a rule give attention to the field of work yielding him the largest income and will very frequently arouse the antagonism of other physicians of the vicinity who often believe, rightly or wrongly, that the health officer uses his official position to increase his private practice at the expense of the practice of other physicians." We have at present a vast and complicated and with all an exceedingly bungling and exceedingly expensive system of caring for the health of our nation. The municipality expends the before mentioned munificent sum of 10 or 11 cents per year. The state spends grudgingly a few cents more, and insufficient as this is, it affords a real protection and saves many lives.

But it is upon the pocket book of each individual democratic citizen that the real burden falls. He resents being taxed to pay a public health administrator to look after the sanitation of his premises and regulate his food and milk supply, but he will cheerfully pay out his hard earned dollars down to the last one and then mortgage the roof over his head for the service of this physician and that "adjuster," this patent medicine, and that electro-magnetic application, etc., etc.

We have in Iowa 3,733 physicians listed in the American Medical Directory, or an average of one to every 600 population. Computing the average yearly income of these physicians conservatively at \$2,000.00 we see that the population of Iowa spend at least \$7,500,000.00 a year for medical service trying to get well *after* they are sick, and this does not take into consideration at least a similar amount spent for drugs and medicine and perhaps \$1,000,000.00 for care in hospitals and sanitariums. This makes at least \$16,000,000.00 per year that the 2,000,000 people of the state spend inside the state apart from a large number who go farther for relief, or an average of \$8.00 per capita, per year.

Now it has been demonstrated that mine and smelter employes by paying a tax of \$1.00 to \$2.00 per month may secure themselves and their immediate families free professional and hospital care of the very highest order. Allowing five members to the average family—this makes a per capita average of \$2.00 to \$4.00 per year. According to this estimate the average individual

wastes or spends inefficiently an amount sufficient in the aggregate to carry on scientific investigation and preventive medical work on a sublimely Utopian scale.

What I have said of Iowa is equally true of the country as a whole. At the beginning of 1914 there were listed in the United States and dependencies 153,496 physicians and 7,271 hospitals, making a sum total of not less than \$600,000,000.00 paid out last year by the citizens of United States for professional and hospital care alone, exclusive of drugs, medicines, nurses, etc., in an aimless, frantic, desperate, struggle for the recovery of health after it was impaired. And yet when an effort was made to establish a department of public health and sanitation the willful, head-strong, half-grown, pouting American public declared that it would not have sanitary control, it would be sick if it wanted to, and it was nobody's business. By a good deal of effort a children's bureau was established, to try to find out why 16 in every 100 babies born in this United States die during the first year of life and this bureau was given the magnificent sum of \$25,000.00 to do it with, or less than the cost of keeping one battleship in order for one year (Iowa appropriated the same year \$35,000. for hog cholera investigation and considerable less than this for the sum total of state health work).

The American public is wasteful in the methods it employs in regaining health and short sighted in its governmental policy. It has established state and local boards of health but has provided no national official to whom these are responsible. These should be a national department of health with an officer in the cabinet of equal rank with the secretary of agriculture, war, labor, etc., within this should exist a bureau of sanitation, a bureau of original research, a bureau of vital statistics, a bureau of public health education, etc. This department should disseminate its information directly through the State Board of Health, who in turn should be strictly accountable to the national office through a uniform and rigidly enforced system of reports and statistics. These would make untoward local conditions immediately apparent and immediately remediable.

The local boards of health should consist of specially trained full time men, whose efficiency or inefficiency would become constantly apparent, and be judged (like that of the Chinese court physician) through the fluctuations in the rate of sickness and mortality in the community.

Such cases of sickness and accidents as might occur under these ideal conditions, should be

cared for at model hospitals maintained from a state hospital fund, subject to government inspection, and supplied with medical service from only schools of the highest rank. Lying-in hospitals in particular should afford not only the best possible service to every mother, regardless of social or economic standing, but should provide also a mother's training school through which every mother in the state should pass before leaving its portals with a helpless new born citizen in her arms.

A suggestion for the protection of community health is to be had from the present custom of compulsory periodic physical examination in the regular army, in some industrial concerns, in our better public schools, etc. There should be compulsory periodic examination of every citizen from birth to death, and the family history of every individual should be a matter of municipal record. The state should require this as a matter of protection. Among the many advantages of this would be the detection of subnormal children and children of criminal tendencies in time for treatment and segregation and the subsequent protection of society.

All this would operate directly to lessen the population of penal and other institutions, and this enormous tax might gradually become diverted to other and more satisfactory channels. This may sound chimerical, but this and more could be done without diverting one cent from any other object than is now being spent in the weary struggle of the individual for health. It is only a matter of co-operation and centralization of effort. We have applied these to most of the other interests of life, why not to this supremely important one.

Dr. Victor Vaughn, our American Medical Association President, in a recent much quoted article indulges in a dream from which we quote the following "His (a hypothetical 'Dr. Smith') waiting-room is filled with people old and young of both sexes, who have come to be examined in order to ascertain the exact condition of their health. A young man before proposing marriage to the woman of his choice wishes a thorough examination. He wishes to know that in offering himself he is not bringing the woman any harm. He desires to become the father of healthy children and he is not willing to transmit any serious defect to them. He tells the doctor to examine him as carefully as he would were he applying for a large amount of life insurance. The doctor goes through the most thorough physical examination and tests the secretions and blood with the utmost care. He understands his own responsibility in the matter and appreciates the

high sense of honor displayed by his patient. A young woman for like reason had delayed her final answer to the man who has asked her hand in order that the doctor might pass upon her case.

Here is doctor's old friend, William Stone. Mr. Stone is in the early fifties. He has been highly successful, and honorable as a business man, accumulated a sufficiency and enjoys the good things which his wife prepares for the table. A careful examination of the urine leads the doctor to caution Mr. Stone to reduce the carbohydrates in his food. Mr. Perkins, a lawyer who throws his whole strength in every case he tries and of late has found himself easily irritated, shows increased urinary secretion and blood pressure rather high. A vacation with light exercise and more rest is the preventive prescription which he receives.

Mrs. Williams after being examined by Dr. Smith, undergoes a slight operation under local anesthesia, and is relieved of the first and only malignant cells found in her breast. Richard Roe, who is preparing for a long journey is vaccinated against typhoid fever, a disease no longer existent in Dr. Smith's city, since pollution of the water has been discontinued. John Doe, who is a mineralogical expert and wishes to do some prospecting in high altitudes has his heart examined.

There are numerous applications for pulmonary examination. This is done by Dr. Smith and his assistant in a most thorough and up to date manner, and advice is given each according to the findings. It has been many years since Dr. Smith has seen an advanced case of pulmonary tuberculosis. Everybody goes to a physician twice a year and undergoes a thorough examination.

The result of this examination is stated in a permanent record, and no two consecutive examinations are made by the same physician in order that a condition overlooked by one may be detected by another. Cases of doubt or in which there is difference of opinion are referred to special boards.

The average of human life has been greatly increased and the sum of human sufferings has been greatly decreased. Preventive has largely replaced curative medicine. Tenements are no longer known, prostitution and with it the venereal disease has disappeared; institutions for the feeble minded are no longer needed, because the breed has died out, insanity is rapidly decreasing, because its chief progenitors, alcoholism and syphilis, have been suppressed. These and many

other pleasing visions come to Dr. Smith in his dream, from which he is startled by the ring of the telephone at his elbow. The call says "Come quickly to Pat Ryan's saloon at the corner of Myrtle and Second. There has been a drunken row. Bring your surgical instruments." Then the smiles which had played over the face of the doctor in his dream were displaced by lines of care, and he went forth into the darkness of ignorance and crime."

This dream is Utopian, but possible of realization when the state once awakens to its duty in the matter of the support of scientific medical research, and to the equally important matter of constituting an efficient avenue of conduct of the benefits of scientific discoveries to the individual. The discoveries of science which increase the measure of human life and efficiency should be like the loaves and fishes which Christ broke and gave to the disciples, they to the hungry multitude.

The scientist is our physical savior, the medical profession and our public health officials should be our apostles of health bringing physical salvation to the people. Neither the Christ nor the disciples bartered their gifts for gain.

It was generally conceded that they were public servants and "worthy of their hire." Our sense of justice should tell us that society can never repay in the smallest measure the debt it owes to the man who gives every force of his being to patient, intensive research, sacrificing everything, pleasure, comfort, recognition, and even life and health itself. Surely society is also indebted to the man who brings this cup of life and gives to suffering humanity to drink. And equally true is it, that physical health, being the basis of all efficiency, of all the citizens service to state and society, of all joy in living, should be the inalienable right of the individual, and in a peculiar sense the inalienable right of the child, and should not depend upon the financial standing of the individual or his parents.

But how can this Utopian dream become realized? and how may we help in its realization? This is the part that should interest us today.

Government is in the last analysis a mutual protective association and "legislation" is a business of "interpretation" of the will of the majority. To be effective and to be enforced, however, legislation must be the interpretation of the will of more than the majority. In a crisis one supreme leader may bend a nation to his will, but in the prosaic matters of every day life a profound conviction of the citizenship at large is necessary to effective legislation. This profound

conviction comes slowly through patiently instilled precept.

In the case in question it comes through the giving of the bread of scientific knowledge to the multitude by the physician, who must at once be teacher, confessor and friend.

We are in the beginning of a tremendous national awakening along public health lines. We are realizing that in a most real sense "no man liveth unto himself" and still less does any man "die unto himself." There never was a time when so much was being done or when there was so much to do, or when individual effort counted so much as right now. And I am here to impress upon you the thought that your effort should count and your influence should be felt in your community and state.

Being women, as well as physicians, we share with our sex in the actual and potential motherhood of the race. Being women we make common cause with all women as is shown by our present close affiliation with federated clubs, etc. And being women and mothers our first and closest and dearest interest is the child. The interests of the child not only come near to our hearts but is basic to any consideration of the interests of society. Save the child and you save the man. Let us consider some of the interests of the child which should concern us in a practical way. In the first place the birth of the child should be a matter of public record. I wonder how many of you realize that more than one-third of the babies born in Iowa each year are entirely missed by the assessors and have public record of birth. There are only 25 states in the Union in which 90 per cent or more of deaths are registered, and only 7 states in the Union in which 90 per cent of births are registered. Iowa is not one of the 7 nor one of the 25. A bill is to be drafted by the United States Census Bureau and presented to our Iowa legislature this winter, which will, if adopted, admit Iowa to the registration area. The subsequent success of this bill, however, depends in a very large measure upon an educated public sentiment. The registration of births is always a more difficult matter to obtain than the registration of deaths, since the public at large fail to recognize the equal importance of it. Do not let an opportunity escape to instruct your clientage and your community on this point and assist your women's clubs in the birth registration campaign they are conducting over the state.

After we once know how many babies are born, in order to make our effort in their behalf effective, we must know what becomes of them. Sir Arthur Newsholme, the great English sta-

tistician, has said "Infant mortality is the most sensitive index we have of social welfare. If babies were well born and well cared for their mortality would be negligible"—just think of it—"negligible," and our reason tells us that he is entirely right, and yet at least 300,000 babies under one year of age died in the United States last year, or 16 out of every 100 births. In the factory cities of Lowell and Fall River, Mass., the infant mortality showed the frightful rate of 18 and 23 per 100. Of this 300,000 it is estimated that 36 per cent died during the first month of life. Is this not a slaughter of the innocents surpassing anything in the history of the wars of the world? And yet so accustomed have we become to the idea of infants dying we have come to accept it almost with indifference. In making clinical histories I am constantly impressed with this. I ask "have you brothers or sisters dead" and there are very few people who do not say casually "yes, that is two or three or four or even more *died in infancy*." When I see a woman past the child bearing age who has borne and *kept* a family of six or eight or ten children I feel like kissing the hem of her garment. Surely our government should never let these women feel the pressure of economic want. That something must be done is apparent. And one of the first things to do is to investigate conditions. To this end the children's bureau has compiled the following mortality outline, covering points deemed most fundamental to a study of conditions affecting the life and health of young children. Our State Board of Health appreciates the importance of this to the extent of printing 10,000 copies gratis for use in Iowa.*

It is the purpose of the child hygiene committee of the State Federation of Woman's Clubs (a committee by the way composed of members of this association) to have a mortality survey made in as many communities as possible in Iowa, and have one of these outlines filled out for every baby born in 1913.

That a campaign for the education of mothers can be made effective even without determinative legislation, has been demonstrated in New York City, where the New York milk committee, the Visiting Nurses Association and various other agencies, working under the direction of Dr. Josephine Baker, who is Superintendent of Department of Child Hygiene on the New York Board of Health, have succeeded in reducing the infant mortality of the whole slum burdened city of New York to a figure less than that of the rural districts of the same state.

What might be done in individual states is convincingly set forth in a little pamphlet just

*See insert.

issued by the Census Bureau, entitled "The New Zealand Society for the Health of Women and Children."

New Zealand has two advantages over Iowa to start with, one is efficient birth and death registration, and the other is equal suffrage. But Iowa will surely have an adequate vital statistic law by 1915, if we all spread the propaganda as we should, and by 1916 we will surely come into our rightful citizenship. In the meantime let us see what New Zealand has done with an area of 104,000 square miles and a population of 1,071,000, and a death rate, to start with of 8.3 per 100, which even then was half what that of the United States is today. The educational campaign of the "Plunkett nurses" was so successful that the mortality for 1912 dropped to 5.1 per 100 and in one of the large cities Dunedin, to 3.8 per cent. The functions of this society are set forth in the report for 1913 as follows:

"(1) To uphold the sacredness of the body and the duty of health; to inculcate a lofty view of the responsibility of maternity and the duty of every mother to fit herself for the perfect fulfillment of the natural calls of motherhood, both before and after childbirth, and especially to advocate and promote the breast feeding of infants.

(2) To acquire accurate information and knowledge through the agency of its members, nurses, and others, by means of natural handing on from one recipient or beneficiary to another, and the use of such agencies as periodical meetings at members houses, or elsewhere. Demonstration, lecture, correspondence, newspaper articles, pamphlets, books.

(3) To employ especially trained and qualified nurses, to be called "Plunkett nurses," whose duty it will be to give sound, instruction, advice, and assistance, gratis, to any member of the community desiring such services, on matters affecting the health and well being of women, especially during pregnancy and while nursing infants, and on matters affecting the health and well-being of children, and also to endeavor to educate and help parents and others in a practical way in domestic hygiene in general—all these things being done with a view to conserving the health and strength of the rising generation, and rendering both mother and offspring hardy, healthy, and resistive to disease.

(4) To promote legislative reform in matters pertaining to the health of women and children.

(5) To co-operate with any present or future

organizations which are working for any of the foregoing or cognate objects."

Our state is now especially awake to the physical interests of the child through the unique movement known as the baby health contest which had its origin in Iowa in 1911 and which has resulted in the critical physical examination of many thousands of children all over the United States. The American Medical Association has become interested in this movement through the agency of our Chm. of the P. H. E. Com. and has issued a standard score card. This is a distinctly important step, one which will increase the efficiency of the movement and place it upon a uniform and scientific basis. It is to be hoped that the next step will be such standardization and organization as will make it possible for every child to be examined critically and regularly, in order that he may have every chance to develop into his full measure of physical possibility.

Another important child welfare agency in Iowa, of which you should not forget to avail yourselves is the extension work offered by our University and Agricultural College and Teachers College. Splendid educational assistance is ours for the asking. Use your influence to bring an abundance of it each to your own community.

To sum up your opportunity as I see it in the promotion of child welfare alone, I would like to see you do the following things:

(1) Use all possible influence to arouse public sentiment in favor of accurate and complete vital statistics for Iowa.

(2) See that a careful mortality survey for one year's crop of babies is made in your community.

(3) Use the data thus secured as a basis for educational work among the parents of your community, using the various agencies and methods suggested as well as any others.

(4) Watch all vital statistics report and determine that in your particular community the *death rate must come down*, and further, that the child must not only live but that he must have a fair show for a happy healthy efficient life in after years.

There are many more important lines of interest of which I would like to speak, but time forbids. But, after all, the welfare of the child so underlies every other interest in life that I cannot help thinking that the real gist of social and humanitarian effort may be summed up in "Give the child a fair show and a square deal."

The Journal of the Iowa State Medical Society

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DR. HOWARD GOES WITH THE MCGILL GENERAL OVER-SEAS HOSPITAL

Dr. C. P. Howard, Head of the Department of Medicine, State University of Iowa, left Iowa City on February 27 for Montreal, to join the McGill General Over-Seas Hospital.

This is an organization comprising present and former members of the McGill faculty of the McGill University, as well as a corps of dressers, orderlies, and nurses. It has been officially accepted by the authorities, and after a month's training will leave for Europe. The ultimate destination is of course unknown. It will be somewhere at one of the military bases, and will provide both for the wounded and for the sick. The original capacity was 500 beds which has recently been increased to 1000.

It is to be in command of Dr. H. S. Birkett, Dean of the medical faculty, with various surgeons and physicians and specialists from the staff of McGill University.

From newspaper comments it would seem that the personnel will consist of 200 odd officers and men as well as some 50 or 60 graduate nurses from the Royal Victoria, and Montreal General Hospitals of Montreal.

Doctor Howard will have the rank of Major.

The following temporary arrangements have been made for the carrying on of Doctor Howard's work at the University of Iowa during his absence:

Doctor Van Epps will serve as Head of the Department of Medicine. Doctor Rohner, re-

cently associated with Doctor Kenefick of Algona, and Doctor McClure will assist Doctor Van Epps. Doctor McClure and Doctor Baumann will continue their laboratory work unchanged.

WASHINGTON MEDICAL DEFENSE

Medical defense by the state association has been on trial in Washington a sufficient length of time to demonstrate its efficiency and to prove that it satisfies a real demand. Malpractice suits have accumulated at such alarming degree of late that practically all the physicians' defense companies have withdrawn their business from this state. It is now reported, however, that several of them contemplate soliciting business once more, but that they will confine their risks to those physicians who are protected by the association defense fund, considering these alone as preferred risks. This fact of itself is one of the most emphatic indorsements which could be given of the efficiency of the association defense. As already announced to the physicians of the state, it has been deemed advisable to increase the annual defense dues from five to ten dollars. Already a large number have sent in their subscriptions, sufficient to assure the financial stability for the coming year. At the same time it is desired that a much larger number shall participate in this defense fund, thereby not only protecting themselves but giving strength to the whole movement. It is believed this feature of medical practice is here to stay and fills a demand of great need.—Northwest Medicine.

We publish the above for the information of our readers. In doing so we assume the risk of the criticism of giving too much space to the liability and to the financial dangers which surround the practitioner of medicine. But we have been witness to so many distressing and paralyzing misfortunes that come to beginners and older men as well, and we have had so many letters complaining about the expense of two dollars more or less for an efficient protection against damage suits, that we feel it a duty to keep before the profession the risks they are daily exposed to in the ordinary course of practice, and now to the assumed additional risk of the Workmen's Compensation Act.—EDITOR.

UNIVERSITY OF MICHIGAN PUBLIC HEALTH SERVICE

We have read the transactions of the Clinical Society of the University of Michigan as they appear monthly in the Journal of the Michigan State Society. In the December number in the University Department is an interesting paper by Dr. Howard Cummings, Head of the University Health Service, showing the work of the service.

The health service staff is composed of four physicians, a pharmacist, a nurse and a clerk. The function of this service is to prevent sickness by watchful care, by advice, by vaccination, etc. For instance, during the first year of its existence 15,790 office calls, 300 house calls have been made and 3,470 students have been treated. The calls were for physical examinations, vaccinations against small-pox and typhoid fever, and to advise and guard against contagions and infections, examination of rooming houses, etc. A detailed statement of the year's work is given.

GOOD HOSPITAL TECHNIC

Under the above caption we reproduce something "Modern Hospital" says to superintendents of small hospitals. As a general rule an untrained board rarely consults the staff as to the fitness or qualifications of a superintendent, apparently believing that the methods of management of a club or high class boarding house is good enough for the common people. This is not always true and to the exceptions "Modern Hospital" offers the following:

A good many superintendents have an idea that there is something very mysterious and almost unattainable in what we understand by the term "good technic" in the medical care of hospital patients. That isn't true; elaborate equipment is unnecessary, especially in a small hospital, and the simpler the technic, the better. There must be a laboratory as an aid to diagnosis; it need not cost more than \$500, even if everything has to be bought at once, and there must be at least one ward set consisting of a blood counter, a blood pressure apparatus, and a hemoglobinometer. There is scarcely a town of 5,000 population in the country that does not number among its medical profession someone who has had laboratory training sufficient to do decent laboratory work and use the apparatus. The rest of the scientific work depends on organization and the institution of proper methods. Lean on your medical staff for guidance, and, if they fail you, call in some young medical man who is not on the staff, and who has served an internship in some good hospital. Play your medical men against each other, and see how quickly they will wake up.

THE TESTS OF FUNCTIONAL RENAL ACTIVITIES IN ANTICIPATION OF STRUCTURAL RENAL DISEASE

It is beginning to be appreciated that the internist has a broad field of activities in watching over the physical welfare of valuable lives in anticipation of disaster. This is well set forth in a paper published in the November number of the "Old Dominion Journal of Medicine and Sur-

gery" by Dr. Leslie B. Wiggs of Richmond, Va. There seems to be little doubt that the functional activity of the kidneys can be measured with reasonable accuracy by certain tests that can be easily applied by a well trained physician with moderate laboratory facilities. A very serious mortality comes from chronic structural diseases of the kidneys because of a failure to recognize what is taking place at an early stage. Prof. Christian of Harvard designates a certain condition as "kidney fatigue," the forerunner of definite structural change. If this assumption is true—and we believe it is—the physician has a great opportunity of protecting his patient from a sad misfortune by properly directed treatment and advice. It is unfortunately true that many patients come to the physician complaining of rather indefinite symptoms and are sent away with a little medicine and with assurances that are not realized. Dr. Wiggs is of the opinion "that there is a more or less definitely recognizable premorphologic stage in at least the acute and probably in the chronic renal conditions, and with the expected progress in functional research it seems more than probable that we will be able to diagnose renal insufficiency at least before marked structural changes have taken place."

The test referred to is the phenolsulphophthalien test of Rowntree and Geraghty. The usefulness of this test extends to surgical diseases of the kidneys in determining which one is most affected, the progress of the disease, and when it is safe to operate. It goes without saying that many tests and observations are essential to fix the real value of the test.

In the same number of the "Old Dominion Journal" is an editorial advocating an International Post-Graduate Medical Institution for America, and suggests the location. We have on several occasions expressed the belief that the center of the medical world would soon come to America, as it has passed from one country to another. When the change comes—if it ever does come—it will be when we can offer something very important—something that is better than can be secured elsewhere, something that is distinctly American. This cannot be accomplished by institution building, but by developing methods of research which will clear up many obscure things. It appears to the writer that the working up our clinical material—operating room pathology perhaps—which means the utilizing of material from the living body; the study of infections after the method of Rosenow. There can be little doubt of the advantages of pathology

from the operating room and the pathology of the dead house. We have for some time looked with doubt and suspicion on the sure things that have come from abroad and we have been at work on a statistical system based on a different state of facts. We can see much that is encouraging, but we are convinced that the evolution will come about in places where the atmosphere and state of mind is favorable, whether it be New York, Chicago, Rochester or Des Moines.

ARCHIVES OF INTERNAL MEDICINE

The December number of the "Archives of Internal Medicine," contains some experimental evidence on Post-anesthesia Glycosuria as Influenced by Diet, Body Temperature and Purity of the Ether, by Ross and Hawk. The results from this experimentation was to the effect that the glycosuria following ether anesthesia was related to the diet of the animal; that a carbohydrate-free diet yielded glycosuria and a mixed diet did not yield glycosuria. The following conclusions were reached:

1. The reduction of body temperature during ether anesthesia does not of itself cause glycosuria.
2. The reduction to a minimum of the oxygen content of the ether vapor inhaled does not cause glycosuria.
3. The response of the animal body to "dehydrated" ether (that is ether from which aldehyd and other impurities have been removed) in so far as glycosuria is concerned, is not different from the response to the ether ordinarily used (Squibb) as an anesthetic.
4. The inhalation of ether administered by the cone method causes a more pronounced reduction in body temperature than does the inhalation of the same kind of ether for a similar period when administered by the so-called improved method. The dryness of the ether vapor in the cone method is the contributing factor.
5. The inhalation of ether "dehydrated" or common ether for a period of two hours by dogs fed a carbohydrate-free diet was in every instance accompanied by glycosuria. When the same animals were fed a mixed diet glycosuria was not in evidence.
6. There was no evidence of "emotional" glycosuria, the factor regulating the occurrence or non-occurrence of glycosuria in every instance being a dietary one.

LYMPHOCYTE INCREASE AND ALTITUDE.

Dr. Minnie E. Staines and Dr. G. L. James of Colorado Springs publish some interesting observations on the above subject in "Archives of Internal Medicine" for September, 1914.

These observations may have some significance

in explaining certain well known facts in relation to climatic treatment of tuberculosis. At an altitude of 6,000 feet it was found that there was an increase of about ten per cent in the number of erythrocytes and in content of hemoglobin, but no increase in the total number of leukocytes.

Webb and Williams in 1909 first showed that there was an absolute increase in the lymphocyte element in the blood as the effect of altitude. About the same time Fiessinger demonstrated that the "lymphocytes contain a lipolytic ferment which destroy the waxy coat of the tubercule bacillus."

Many other observers have shown the increase of lymphocytes.

The authors of this paper going over the same field experimentally at an altitude of 6000 feet, found an absolute increase of at least 20 or 30 per cent. What significance may be attached to this fact in relation to tuberculosis they do not attempt to say.

THE WORKMEN'S COMPENSATION ACT OF WASHINGTON IN RELATION TO THE MEDICAL PROFESSION

Clarence A. Smith, M. D., Seattle, Wash.

The Workmen's Compensation Act was passed by the Washington Legislature in its session of 1911. Its administration is placed in the hands of the Industrial Insurance Commission of three members appointed by the governor. The industries of the state are divided into forty-seven classes, rated according to their degrees of hazard. Each industry pays assessments into the fund of its own class and from this fund awards are made only to workmen coming under its class. When a workman is injured, his compensation at the hands of the commission begins at once, continuing over a liberally specified period. In case of permanent injury he receives a certain life pension. In case of his death provision is made for his wife as long as she remains a widow and for the children until they become of age. When the employer makes the required payment into the fund he is thereby exempt from further responsibility for the injured. The compensation paid the injured workman is judgment proof for any liability or indebtedness, so that both the employer and employee are made secure as to their respective liabilities.

When a physician is called to attend an injured workman he must prepare a statement of the injured man's condition, and from time to time must fill out blanks reporting progress. For these he receives no compensation, as the commission states this is a duty to the state for the privilege of being a licensed practitioner. No provision is made for payment for his services, this being left to an agreement between him and the patient. If the latter has

suffered a severe injury, requiring a prolonged hospital treatment, all of his compensation is usually consumed in paying hospital fees. In many cases his award has not been sufficient even for this. The result has been that the physician in many cases has received nothing for his services. At the recent session of the legislature there was much agitation for the passage of a first-aid act with compensation based on a minimum fee bill, in which was to be included provision for hospital dues. As prepared, the measure met the unanimous hostility of the medical profession, who felt they were better off in their present uncertain state of compensation than with the meager fixed fees proposed. Since the first aid was to become an additional burden exclusively on the employers, it received equal opposition on their part. At length it was decided that the wisest course was to leave the whole subject to a commission for a further study during the next two years, when an adequate measure might be presented to the next session of the legislature.

COST OF MEDICAL TREATMENT IN BOHEMIA

"The City of Prague," says Consul Frank Deed-meyer, Prague, Austria, "population with suburbs, 600,000, has about 800 practicing physicians. A medical house call to a middle class family costs \$0.60; an office call \$0.50; a night call, between 9 and 7 \$1.20 to \$2.00 according to distance. Professors attached to the clinics of the two local universities charge much more—\$2 to \$4 for a house call and \$1.20 to \$2 for an office visit. The physicians, except those of the homeopathic school, do not supply medical remedies. At most of the hospitals under the control of the Roman Catholic Associations, treatment and care are entirely free; at the Allgemeines Krankenhaus in Prague (General Hospital in Prague), a government institution, which had over 24,000 admissions in 1913, the charges to the patients, including medical treatment and nursing, per day, are: Class I, \$2.40; Class II, \$1.20; and Class III, \$0.52. To citizens of Prague the Class III charge is only \$0.31. The cost per day at a private sanatorium, of which there are many, ranges from \$2.20 to \$4.80. Nurses at hospitals are paid \$0.80 per day for the first year, with an annual increase of \$0.20 per month; at sanatoriums, from \$6 to \$8 per week; at private houses, from \$0.80 to \$1 per day, board being always included for all nurses."—The Medical Fortnightly.

DR. NOYONS AT LOUVAIN

The British Medical Journal states that Doctor Noyons, Professor of Physiology, at Louvain, has recently distinguished himself by his heroic conduct in remaining with his wife among the ruins of Louvain ministering to the wounded—Germans as well as Belgians. When the population of the city was informed that every inhabitant of the town must

leave immediately, in order that the town might be razed to the ground by artillery, Doctor Noyons and his wife decided to remain in order to protect the 150 wounded who could not be removed in time. The British Medical Journal also calls attention to the fact that Louvain was in old times, as it is still, chiefly celebrated as a school of theology, but for anatomists it is associated with the great name of Andreas Vesalius. The reformer of anatomy was a student in the poedagogium castri and also in the Collegium Buslidianum, where he gained that knowledge of the ancient tongues which was to prove of such service to him in the scientific controversies of his later life. It was when he was at Louvain that Vesalius secured a human skeleton by climbing the gallows outside the town. He had to convey the bones home secretly, reentering the town by a different gate from that by which he had gone out, and articulating his stolen treasures in his rooms. He was afterwards spared the work of "resurrection" by the liberality of the burgomaster, who placed abundance of material for dissection and demonstration at his disposal. In 1536 or 1537 he dissected and lectured publicly. He seems, however, not to have been altogether comfortable in the theological atmosphere at Louvain, and some remarks which he made on the seat of the soul excited the suspicions of the heresy hunters.—The Cleveland Medical Journal.

MAYOR OF SANTA MONICA MUST BE A PHYSICIAN

Santa Monica, Cal., by charter amendment, has limited the selection of the next mayor of the town to a physician. The new charter provides that the mayor shall serve as health officer, whose requirements include graduation from a reputable medical school and at least five years' practice of medicine. The municipal election will not take place until December, 1915.

UNITED DOCTORS OUSTED OUT OF PARIS, MISSOURI

The United Doctors were trundled bag and baggage out of Paris, Mo., where they had advertised their usual unfailing methods of treating disease, "service free of charge" at \$18, \$15 and \$10 per month. These fakers were represented at Paris by a Dr. H. F. Mikel, formerly of Columbia, Mo., a graduate of the State University in 1900, whose license was revoked by the State Board of Health last September for a period of six months. He attempted to bluff the prosecuting attorney into submission, but was very promptly informed that he would be prosecuted if he attempted to gull the people in Paris. The last seen of him was at the railroad station where he waited five hours for the first out-going train.

In Memoriam

Dr. George D. Rowe

DR. GEORGE D. ROWE, one of the oldest and most respected physicians of Central Iowa, died at the Army and Navy General Hospital, Hot Springs, Arkansas, January 13, 1915, of malignant disease of the bladder which had extended to the intestines. An exploratory operation was made, but it was found that the disease had progressed beyond the limitation of surgery.

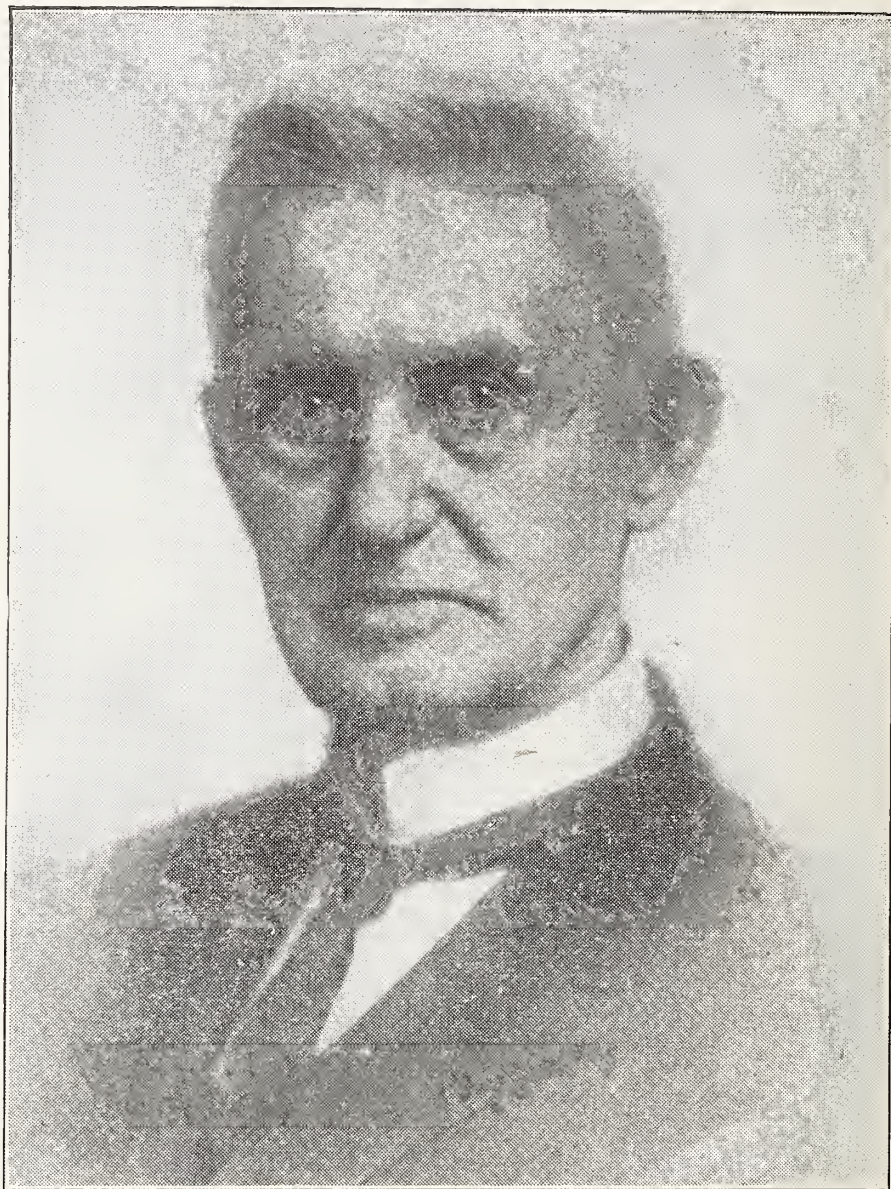
Dr. Rowe was born in Plymouth, Grafton County, New Hampshire, October 30, 1845. At the age of thirteen, he left home and went board ship, but as his experiences were unfortunate, he gave up the sea. When near the Bahamas the ship ran into a violent storm and was wrecked. He was seized with a fever and for months he lay in a precarious condition in a hospital on the islands. Being restored to health he returned to his home and to his school.

Dr. Rowe entered Newberry Academy where he remained until the outbreak of the Civil War. He enlisted in Company B., 15th N. H. Infantry, at the age of sixteen. He was with General Butler at New Orleans, took part in the siege of Vicksburg and saw other active service. Returning from the war, Dr. Rowe commenced the study of medicine, first at the Medical Department of Harvard University, and later at Bowdoin College, where he graduated in 1868 in the same class with the late Dr. A. A. Deering.

In the fall of 1868 Dr. Rowe located in Boone where he remained in practice until a few days before going to the Hot Springs, Ark.

In 1879 Dr. Rowe was united in marriage with Miss Alice Clark of Hillsdale, Michigan. Four children were born to them, one son dying in infancy, two daughters deceased, and Miss Louise Rowe who still survives. Mrs. Rowe died Sep-

tember 27, 1914. Dr. Rowe is survived by two sisters and three brothers; Mrs. Elvira Bullard of Plymouth, N. H., Fred Rowe of Plymouth, N. H., Ara and Burt Rowe of Olympia, Washington, and Mrs. Abbie Horner of West Pawlet, Vermont.



It was the good fortune of the writer to have known Dr. Rowe intimately since 1874 when the Iowa Central District Medical Association was organized. We were both charter members of this organization, and following this and continuing until the time of Dr. Rowe's death, a close friendship existed between us. For many years our professional relations were of an intimate

character, and many times it was our privilege to be associated with him in the treatment of cases as consultant. Dr. Rowe enjoyed the advantages of a large practice, and he held to an unusual degree, the confidence of his patients. He was a man of unusually fine personal appearance, of courteous manners, and while he attracted many patients to him, it was through the merits of his work rather than through any extraneous methods to attract patients. He was a skilful diagnostician and a very judicious practitioner of his profession. His mind was well stored with knowledge, and it was rare that he made mistakes in diagnosis, or fell into error as to the best methods of treating his cases. While Dr. Rowe did not make many contributions to medicine, he was always diligent in his attendance upon medical meetings, and always took a prominent part in the discussion of questions that came before the profession.

Dr. Rowe devoted forty-five years of his life to the relieving of the sick and unfortunate at a time and under circumstances that involved great exposure and hardship because of the newness of the country, and on account of making long journeys over frequently almost impassable roads. Dr. Rowe's death leaves but a small band of Iowa practitioners whose work was conducted under similar circumstances, and involved trials that the practitioner today knows very little about. Dr. Rowe was one of the founders of the Central District Medical Association, and was a member of the Iowa State Medical Society, and of the American Medical Association.

BOOK REVIEWS

MEDICAL JURISPRUDENCE

A Statement of the Law of Forensic Medicine. By Elmer D. Brothers, B. S., LL. B., Member of the Chicago Bar; Lecturer on Jurisprudence in the Medical and Dental Departments of the University of Illinois and in John Marshall Law School. C. V. Mosby Co., St. Louis, 1914. Price, \$3.00.

Suits for damages against physicians for malpractice have become so common of late as to make the practice of medicine and surgery a hazardous employment, and the young man entering upon the practice, or the older man who continues in practice, should have constantly in mind the risks he is subjecting himself to. What to the mind of a physician or surgeon appears reasonable, may not appear so the layman, the court or jury, and he may therefore render himself liable in damages for an act or result which to his mind was proper and right and to the best interest to the patient. It is therefore to the interest of every doctor to inform him-

self as to his legal relations to his patient. During the past two years several books have been written on medical jurisprudence that are intended particularly for the information of the medical practitioner, not only touching his legal relation to his patients and to the public, his rights and obligations, but also to his duties as a witness in civil and criminal cases. The book before us published by the C. V. Mosby Company, is one of the class referred to. This work of 300 pages presents in a concise form the accepted holdings of the courts in relation to the rights and obligations of the medical practitioner and as such should be read thoughtfully and carefully, with the fullest appreciation of the fact that a medical practice cannot be successfully conducted on a sentimental basis alone, but must have combined a clear conception of duties and obligations measured by his legal responsibilities.

PATHOGENIC MICROORGANISMS

(Including Bacteria and Protozoa.) A Practical Manual for Students, Physicians and Health Officers. By William H. Park M. D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and Director of the Bureau of Laboratories of the Department of Health, New York City, and Anna W. Williams, M. D., Assistant Director of the Bureau of Laboratories, New York City; Consulting Pathologist to the New York Infirmary for Women and Children. New (5th) Edition, Thoroughly Revised. Octavo, 684 Pages with 210 Illustrations and 9 Full-Page Plates. Cloth, \$4.00, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

As the reviewer compares the fifth edition of this excellent work with the first edition as it appeared in 1899 under the title Bacteriology in Medicine and Surgery, the present volume appears like a new book, and clearly indicates the remarkable advance that has characterized this department of study during the past fifteen years.

The first edition was intended more for medical practitioners than for medical students, but in this new work the student and laboratory worker, the sanitarian and the practitioner, will find it equally well suited to their needs. New sections have been added and entire chapters rewritten. In the orderliness of its arrangement, simplicity of expression, and attention to details, this work should be of particular value to the student, besides being a thoroughly safe guide to laboratory procedure and technique.

It contains most interesting sections devoted to the consideration of immunity, the filtrable viruses, the preparation and use of media and aniline dyes. The broad scope is further evidenced by the full consideration accorded such subjects as soil and sewage bacteria, the bacteria of industry; disinfectants; the bacteriology of milk in relation to disease; bacte-

riological examination of air, water and soil; and water purification.

Because its authors are bacteriologists who deal constantly with practical problems, it should have a peculiar claim on the appreciation of the general practitioner.

One of the excellent features is a good index, which makes it a most convenient work of reference.

AN EPITOME OF PEDIATRICS

By Henry Enos Tuley, A. B., M. D., Late Professor of Obstetrics, Medical Department, University of Louisville; Editor Louisville Monthly Journal of Medicine and Surgery; Late Chairman of Section Diseases of Children, American Medical Association; Ex-President American Association Medical Milk Commissions, etc. New (2d) Edition, Revised and Enlarged. 12 Mo., 324 Pages. Cloth, \$1.00, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1914. (Lea's Series of Medical Epitomes.)

This volume of the Medical Epitome Series endeavors to present in compact form the essentials of the subject as taught at present, with all the advances made in diagnosis, infant feeding, and in treatment. The work is very compact and handy for ready reference, not only for the student but also for the practitioner who wishes to bring up to date his knowledge of pediatrics, or to rapidly refresh his memory in regard to some disease. The chapter on infant feeding is rich in description of methods of milk modification, with charts and tables for convenience in this all-important division of treatment.

Some errors exist, typographical in nature, as well as the mistake on page 21, where the bifurcation of the trachea is stated as being at the level of the 3rd lumbar instead of 3rd cervical vertebrae.

The use of the set of questions at the end of each chapter is recommended as a means of defining one's knowledge of the subject.

STUDENT'S MANUAL OF GYNECOLOGY

By John Osborn Polak, M. Sc., M. D., F. A. C. S., Professor of Obstetrics and Gynecology, Long Island College Hospital; Professor of Obstetrics in the Dartmouth Medical School; Gynecologist to the Jewish Hospital; Consulting Gynecologist to the Bushwick, Coney Island, Deaconess' and Williamsburg Hospitals, Brooklyn and the Peoples Hospital, New York; Fellow American Gynecological Society, Etc. 12 Mo., 414 Pages, Illustrated With 100 Engravings and 9 Colored Plates. Cloth, \$3.00, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

This book of 414 pages is an excellent type of an every day clinical exposition of an important subject in medical practice. There are many voluminous works that deal with theoretical and operative con-

siderations in the domain of gynecology that will be necessary to study in relation to general operative work, but this little book will carry with it the conviction that the best has been pointed out in a direct and concise manner. The general practitioner will find this a most attractive and helpful book.

INTERNATIONAL CLINICS VOL. IV

Twenty-fourth Series, 1914. Price, \$2.00. J. B. Lippincott Co., Philadelphia.

This volume comprises twenty-nine papers under the headings of Diagnosis and Treatment, Medicine, Surgery, Medico-Legal and Miscellaneous.

We would call particular attention to the three papers about Radium; to the paper on Obesity Cures; to the paper on Home Treatment of Inebriety.

Dr. Skillern's account of the Mayo Clinic is interesting. Of especial importance are the two papers—Expert Testimony and Performing an Operation without Consent.

All of the papers are distinctly high class.

MEDICAL LIBRARIES

A medical community with a medical society is invariably progressive; but if it adds to this a good medical library, it adds to its progressive stability.

A hospital, a laboratory or a society is often the nucleus of interest about which a medical community gathers, but none of these can appeal so strongly to the largest number of the substantial element of the profession as does a medical library. One of the reasons for this is that a medical library is not possible in a community which is not sufficiently advanced to have a successful medical society. The hospital and the laboratory in a given community do not offer like opportunities to all, and the voice in their management and work comes from but a few.

A society is influenced by the indescribable "spirit of the hive," or by some dominant character, and its interests rise and fall, unless it be a great organization or has property interests or vested rights affecting its members. But a medical library in which all its members have a right and which depends for its existence on the interest of all, when once established and appreciated, becomes a center of common sympathy and the strongest of bonds for holding a medical organization in harmony.

A society with such a library possesses cohesive power. Men who are advanced enough to maintain a society will often rally about the interests of a library when but passive in other things. They may have their differences in the hospital and in the society, but they will be found united for the library. Such a library becomes their pride. They know its worth. Their common interests crystalize about it. It diffuses through the whole society high ideals, a respect for that which is scholarly and worthy of reverence and a love for the noble traditions of their profession.—Warbasse.

SOCIETY PROCEEDINGS

IOWA STATE MEDICAL SOCIETY—SIXTY-
FOURTH ANNUAL SESSION WATERLOO
MAY 12, 13, 14, 1915

PRELIMINARY PROGRAM

FIRST DAY—WEDNESDAY MAY 12, 1915

Opening Meeting 9 O'clock, A. M.

1. Call to order by President.
2. Prayer.
3. Address of Welcome.
4. Response.
5. Report of Committee on Arrangements.

SCIENTIFIC PROGRAM 10 TO 12 O'CLOCK M.

1. Diabetes Mellitus—S. K. Davis, Libertyville.
2. Madelung's Disease with report of three (3) Iowa cases—E. C. McClure, Bussey.
3. The Diagnosis of Osteomyelitis—
M. J. Kenefick, Algona.
4. Non-Malignant Diseases of the Prostate—
Ben C. Everall, Waterloo.
5. President's Address—H. C. Eschbach, Albia.

AFTERNOON SESSION, MAY 12, 1:30 TO 5 P. M.

6. Ruptured Uterus in a Country Practice—
A. J. Swezey, Decorah.
7. Indications for Caesarian Section—
William L. Allen, Davenport.
8. Report of Chairman of the Section on Medicine
—Paul E. Gardner, New Hampton.
9. Life Insurance and the Doctor—
G. E. Crawford, Cedar Rapids.
10. Gastrorrhagia with Report of a fatal case—
T. A. Moran, Melrose.
11. Diagnosis of Surgical Diseases of the Gall-
Bladder—W. A. Rohlf, Waverly.
12. The Surgical Complications of Typhoid Fever—
Van Buren Knott, Sioux City.
13. Co-Operation: What does it mean?—
Clinton E. Harris, Grinnell.

EVENING SESSION, MAY 12, 7:30 P. M.

14. Congenital, or Early Acquired Spastic Para-
plegia, Associated with Hypothyroidism and
Ichthyosis, with report of a case—
Tom B. Throckmorton, Des Moines.
15. The Etiological Factors in Uveal Tract Diseases
and the general examinations required to
determine their presence and decide upon
the treatment of the lesions they produce—
Dr. George E. de Schweinitz, Philadelphia.
16. Infection—Frank T. Hartman, Waterloo.
17. What is the matter with us?—
J. E. Luckey, Vinton.

First Meeting of House of Delegates immediately
on adjournment of evening session.

SECOND DAY, THURSDAY MAY 13, 9:00 A. M.

18. The Surgical Treatment of Old Gonorrheal In-
fections in Women—
S. A. Spillman, Ottumwa.

19. Conservative Excision in Sarcomata of the
Long Bones—
James Frederick Clarke, Fairfield.

20. A study of Internal Secretions, a possible new
era in Medicine—
C. H. Churchill, Ft. Dodge.

21. The Classification and Treatment of Chronic
Splenic Tumor, W. E. Sanders, Des Moines.

22. The Effects of the Compensation Law on the
Profession—D. S. Fairchild, Clinton.

23. A Series of Brain Operations—
A. M. Pond, Dubuque.

24. Gastric and Duodenal Ulcers from a Medical
Standpoint—E. T. Edgerly, Ottumwa.

25. The Relation of Appendicitis to other Intra-
abdominal Lesions—
N. Schilling, New Hampton.

AFTERNOON SESSION, MAY 13, 1:30 P. M.

26. Diagnosis and Treatment of Injuries of the
Spine—E. M. Myers, Boone.

27. Address on Surgery—
Charles A. L. Reed, Cincinnati, Ohio.

28. Address of Chairman of the Section of Surgery
—Oliver J. Fay, Des Moines

29. Arthroplasty from the Clinical and Exper-
imental Standpoint—
Arthur Steindler, Des Moines.

30. Surgical Treatment of Hyperthyroidism—
C. A. Rowen, Iowa City.

31. Pelvic Neoplasms in Pregnancy—
Laura H. Branson, Iowa City.
Jessie B. Hudson, Clinton.

32. Toxemias of the latter months of Pregnancy—
Addison C. Page, Des Moines.

THIRD DAY FRIDAY, MAY 14, MORNING
SESSION 9:00 A. M.

33. The Use of Lane's Plates in the Treatment of
Fracture of the Femur—
F. M. Tombaugh, Burlington.

34. Oration on Medicine—
F. C. Mehler, New London.

35. Address on Medicine—
Charles Lyman Greene, Minneapolis, Minnesota.

36. Acute Articular Rheumatism and its differential
Diagnosis—C. P. Howard, Iowa City.

37. The Diagnostic Importance of Blood Examina-
tions—V. L. Treynor, Council Bluffs.

38. Oration on Surgery—T. E. Powers, Clarinda.

39. Diagnosis and Treatment of Chorio-Epithelioma
—J. C. Rockafellow, Des Moines.

40. Early Diagnosis in Carcinoma of the Uterus—
G. T. McCauliff, Webster City.

41. Preliminary Report of the Health of Women
Students in the Colleges of the State—
Jeannette F. Throckmorton, Chariton.

SECTION ON OPHTHALMOLOGY, OTOLOGY
AND RHINO-LARYNGOLOGYWEDNESDAY, MAY 12, 6:30 P. M.—DINNER
FOR EYE MEN AT RUSSELL-LAMSON;8:00 P. M., WITH GENERAL SES-
SION

"The Etiological Factors in Uveal Tract Diseases

and the General Examinations Required to Determine Their Presence and Decide Upon the Treatment of the Lesions They Produce"—

Geo. E. de Schweinitz, Philadelphia.

THURSDAY, MAY 13, 9:00 A. M.

Odds and Ends—Chas. P. Frantz, Burlington.

Diseases of Eye and Ear as Influenced by General Conditions or Diseases of Other Organs—

F. F. Agnew, Independence.

Discussion—H. B. Gratiot, Dubuque.

Recurrent Corneal Ulcers—Lily Kinnier, Dubuque.

Discussion—J. E. Graham, Ottumwa.

Detail of Worth Muscle Exercises and Other Treatment for Strabismus—C. C. Walker, Des Moines.

Discussion—W. B. Small, Waterloo.

The Extrinsic Muscles in Refraction—

H. M. Ivins, Cedar Rapids.

Discussion—G. F. Harkness, Davenport.

Results of the Elliott Trephine Operation—

R. H. Parker, Des Moines.

Discussion—L. W. Dean, Iowa City.

Hay Fever, Pathology and Treatment—

E. A. Hunt, Burlington.

Discussion—R. M. Lapsley, Keokuk.

Disease of the Maxillary Antrum—

W. H. Johnston, Muscatine.

Discussion—H. D. Fallows, New Hampton.

Intranasal Treatment of Frontal Sinus Disease, Operative Technique and Indications for—

Edwin Cobb, Marshalltown.

Discussion—E. H. Knittle, Waterloo.

Foreign Bodies in the Air Passages—

F. H. Roost, Sioux City.

Discussion—F. W. Bailey, Cedar Rapids.

The annual January meeting of the Dubuque County Medical Society, was held at the Wales Hotel, Tuesday evening January 12, 1915. The regular scientific program was omitted, owing to the fact that business of importance and election of officers for the year 1915, took place at this meeting. The following officers were elected for the ensuing year: President, Dr. I. S. Bigelow; first vice-president, Dr. Lily Kinnier; second vice-president, Dr. H. M. Phalas; secretary, Dr. C. A. McGuire; treasurer, Dr. L. H. Fritz; librarian, Dr. W. P. Slatery; delegate, Dr. J. C. Hancock; alternate delegate, Dr. H. G. Langworthy.

The regular meeting of the Linn County Medical Society was held at Hotel Montrose February 23, 1915.

The officers of the Society are: President, Dr. Fred W. Bailey; vice-president, Dr. F. F. Ebersole; secretary, Dr. J. E. Stansbury; treasurer, Dr. Frank Skinner. Delegates, Dr. R. B. Hasner, Dr. John Hamilton; alternate, Dr. A. Erskin; board of censors, Dr. W. G. Carhart, Dr. H. E. Pfeiffer, Dr. H. M. Ivins. The program follows:

The Value of Iridectomy in Punctured Wounds of the Cornea—Dr. J. M. Knox, Cedar Rapids.

Control of Diphtheria in Institutions—Dr. Frank

S. Skinner, Marion; Dr. J. E. Luckey, Vinton; Dr. D. E. Beardsley, Cedar Rapids.

Some Problems One Meets in the Treatment of Gonorrhea—Dr. H. R. Conn, Cedar Rapids.

A Series of Mixed Tumors of the Kidneys, with Histories of Cases and Autopsy Findings (Illustrated)—Dr. R. B. Hasner, Cedar Rapids.

Addison's Disease, with Demonstration of a Case—Dr. C. T. Houser, Palo.

The annual meeting of the Lucas County Medical Society was held at the office of Dr. J. H. Stanton, Chariton, Iowa, February 16, 1915 and the following officers were elected for 1915: President, Dr. J. H. Stanton, Chariton, Iowa; vice-president, Dr. J. C. Bell, Lucas, Iowa; secretary-treasurer, Dr. Jeanette F. Throckmorton, Chariton, Iowa; delegate, Dr. T. P. Stanton; alternate, Dr. T. M. Throckmorton.

The Polk County Medical Society had for its program February 23.

1. The Interpretation of Dreams—Dr. E. R. Posner.

According to Freud, dreams, merely reflect the hidden desire of the dreamer. They are based upon the individual's experience and desire. In the interpretation two widely different parts present themselves for analysis.

First, the manifest content, which the dreamer perceives and remembers, and secondly, the latent content, which is the underlying dream thought, undergone or subjected to distortion, and various symbolic changes, with the rearrangement of persons, places, time and events, so that the dream in presentation is unintelligible. This is called the Dream Work, and its supervisor is the Dream Censor, akin to the waking Psychic Censor or Conscience.

In essence, Dream Analysis is useful as a means of gaining insight into the Unconscious mind, a field where Psychanalysis is of so great value.

2. Broncho-Pneumonia in Children—Dr. A. J. Booker.

Dr. Booker's conclusions were:

Broncho-pneumonia is rather a complication than a disease, in many instances; although many cases, from findings and course are of pneumococcic origin. The term must satisfy until we are able to make a diagnosis upon a bacterial, or some other etiological factor.

Increasing the resistance of children, making them less susceptible by attention to the naso-pharynx and digestive system, will lessen this condition.

In observations of seventy-four cases, a majority of them rachitic, fifteen giving histories of severe gastrointestinal disorders previously, fresh air was the most reliable agent in restoring the children to health.

Many children are nursed to death. Rosenau says "Fresh air is nature's tonic; cold air is especially stimulating." Cold fresh air is the most reliable stimulant to the respiratory center which, along with nutrition, we are most interested in. A little experience, along with an explanation will convince

and make an enthusiast of the most ignorant or prejudiced mother.

3. Crises of Pneumonia—Dr. Wm. E. Sanders.

Dr. Sanders spoke on the crises of pneumonia and presented a number of charts illustrating a series of unpublished experiments which he conducted a few years ago while engaged in research work at the Johns Hopkins Hospital.

These experiments consisted in the demonstration of protective substances in the blood serum at and a few days following the febrile crisis, and coincide with a phagocytic crisis in the strains of organisms isolated from the sputum.

The phagocytic experiments were conducted according to the Wright method, using in some instances serum dilutions instead of the phagocytic count, involving about 746 different tests on about twenty-five or thirty strains, isolated before, at and after the crisis.

He felt that the following conclusions were justified. (1) Strains isolated before the crisis were not phagocyted by precritical homo, hetero or normal sera. (2) Strains isolated after the crisis were generally equally phagocyted by pre and post critical homo and pre and post critical hetero, and normal sera, active and inactive. (3) Some strains isolated before crisis are slightly more markedly phagocyted by post critical homo than post critical hetero or normal sera. (4) The transition from negative to positive phagocytosis coincides with the development of protective substances in the blood serum but persists after the protective substance has disappeared. It occurs suddenly and without any appreciable decrease of the virulence of the strains for mice. (5) It is almost certainly due to a mutation of the strain of pneumococci at the time of crisis, but the strain persists in this mutated form after the substance which induced it has disappeared.

At a special session of the Webster County Medical Association held February 9 at the Commercial Club Dr. Van Buren Knott gave a paper on "Surgery of the Thyroid Gland."

The Southwestern Iowa Medical Society held its semi-annual meeting at Creston, Iowa February 18. The program follows:

Modern Treatment of Fractures—Dr. J. W. Cokenower, Des Moines.

Some Observations in the Management of Cases in Large Construction Work—Dr. F. B. Dorsey, Jr. Keokuk.

What do we Learn from Blood Pressure Reading?—Dr. E. T. Edgerly, Ottumwa.

Diagnosis of Intestinal Stasis—Dr. Donald Macrae, Jr., Council Bluffs.

Keeping Up with Lizzie—Dr. G. I. Armitage, Murray.

Report of Betterment Committee—Dr. Geo. Morridge, Glenwood.

Public School Inspection—Dr. B. L. Eiker, Leon.

Result of Four Years of Inspection Red Oak Schools—Dr. Louis Thomas, Red Oak.

The New Charter of Human Rights—Rev. A. E. Kepford.

COMING MEETINGS

The Iowa and Illinois Central District Medical Association will hold a special meeting in Davenport on March 23, at which Doctor Fred H. Albee, of New York will be the guest and deliver the address of the evening. Doctor Albee will discuss "The Inlay Bone Graft in the Treatment of Fractures, Pott's Disease, and other Bone Defects," illustrated with lantern slides. This will be a rare opportunity to meet the foremost exponent of bone transplantation in the world. This meeting will be held in the ball room of the new Hotel Blackhawk, one of the finest hotels in the middle west.

The regular spring meeting of the above society will be held in Rock Island, on Friday April 9, at which the chief paper of the evening will be read by Doctor A. J. Ochsner, who needs no introduction to Iowa physicians.

The spring meeting of the Medical Society of the Missouri Valley will be held in Omaha, Thursday and Friday, March 25 and 26, under the presidency of Dr. Granville N. Ryan, of Des Moines. This society will enjoy the distinction of being the first medical body to hold its sessions under the roof of Omaha's new million-dollar hotel, the "Fontenelle," which is one of the finest in the United States; it was built by a stock company composed of local citizens.

The Arrangement Committee, composed of Drs. J. P. Lord, B. B. Davis, Rodney Bliss, and Louis Bushman, announce all plans completed for our comfort and entertainment. All sessions will be held in the banquet hall of the "Fontenelle," which is headquarters. On Thursday evening a smoker will be given by the Omaha-Douglas County Medical Society, following the address in Medicine and Surgery. On Friday noon, the members will be entertained at luncheon by the Commercial Club. The visiting ladies will be entertained by a special committee; announcement of plans later.

We would suggest that members, and others attending the meeting, make their reservations early at Hotel "Fontenelle," to avoid disappointment.

On Thursday evening we will have the pleasure of hearing Dr. Frederick H. Albee, of New York, who will deliver the Oration in Surgery. "The Future of the Bone Graft," (with lantern illustrations). Dr. Chas. Spencer Williamson, of Chicago, will give the Oration in Medicine, "An Experimental Study of Cardiac Overstrain."

PRELIMINARY PROGRAM

"Paresis," J. M. Barstow.

"Post-operative Vomiting and Meteorism," Carl W. Wahrer.

Paper, Reuben Peterson.

Paper, Milton Weston Hall.

Paper, Chas. Ryan.

"Appendicostomy for Persistent Vomiting, and Diverticulostomy Substituted for Appendicostomy and Enterostomy in Exceptional Cases," Caryl Potter.

"The Relation of Indican to Gastro-Intestinal Malignancy," J. M. Bell.

"A Point in the Diagnosis of Gastric Disturbances," H. J. Lenhoff.

"Premonitory Symptoms of Tuberculosis; Early Measures of Arrest," Paul Paquin.

"Intestinal Stasis (Medical)," John W. Shuman.

"The Paralytic Ankle-joint; Review of Operative Methods," Arthur Steindler.

"Autogenous Vaccines in the Treatment of Bronchitis and Asthma," Robert H. Babcock.

"Arthritis Deformans," Geo. F. Butler.

"Flatfoot," (lantern slides). P. A. Bendixen.

"The Status of the Autograft" (lantern slides), Arthur Ayer Law.

"Better Knowledge of Pathological Anatomy Responsible for Improved Results in Prostatic Surgery," J. Stanley Welch.

"The Prevention of Deformity by the General Surgeon," H. Winnett Orr.

"The Early Symptoms and Treatment of Syphilis of the Brain and Cord," J. L. Greene.

"The Present Relation of Syphilis to Nervous Diseases," F. E. Coulter.

"Inherited Syphilis," Alfred Schalek.

"Individualization in Medical Practice," Henry S. Munro.

"An Unusual Case of Sarcoma of the Orbit," Harold Gifford.

"Positive Diagnosis in Diseases of the Chest" (lantern slide), Albert F. Tyler.

"The Use of Radium in Benign Conditions; and as an After-Treatment for Malignancy," D. T. Quigley.

"Post-Operative Nervous and Mental Disturbances," L. A. Merriam.

"The Mutability of Goitre, and its Bearing on Treatment and Operation," Edw. G. Blair.

CORRECTION

Through an error in the February Journal, the paper read before the meeting of the Sioux Valley Medical Association January 20 on "Tarsotomy versus Tracoma" was credited to Dr. J. W. Shuman, Sioux City. The paper should have been credited to Dr. James E. Reeder, Sioux City. The subject of Dr. Shuman's paper at this meeting was "Five Mistaken Gastric Ulcer Diagnoses."

BIRTHS

Dr. and Mrs. L. L. Lugar, Corydon, February 6, a daughter.

Dr. and Mrs. George E. Sanders, Des Moines, February 11, a son.

Dr. and Mrs. R. R. Snyder, Des Moines, February 25, a son.

DEATHS

Ladd, J. A., M. D., College of Physicians and Surgeons, Keokuk, 1856; a first assistant surgeon in the Civil War; one of the oldest members the Masonic Lodge in Iowa and a Knight Templar; a practitioner at Traer and vicinity for over fifty years, died at his home in Traer after a brief illness February 13, aged 85.

Bridgeman, John Charles, M. D., Rush Medical College 1903; Fellow of the American Medical Association; member of the Iowa State and Pocahontas County Medical Societies; for several years principal of high school of Oconto and Hurley Wisconsin; a practitioner at Pocahontas for the last six years, died at the Methodist Hospital, Des Moines, February 11 from peritonitis, aged 45.

Rose, Herman, M. D., University of Griefswald, 1872; Fellow of the American Medical Association; member of the Iowa State and Webster County Medical Societies; contributing editor to the Iowa Staats Zeitung of Des Moines; a practitioner at Fort Dodge for twenty-three years, died at his home in Fort Dodge February 19 from kidney trouble, aged 68.

Boyd, Charles E., M. D., Baltimore Medical College 1892; Cleveland College of Physicians and Surgeons, 1902; a Fellow of the American Medical Association; a member of the Iowa State and Jasper County Medical Societies; a prominent Mason and Knight of Pythias; a man universally respected died at his home in Newton, Iowa, February 27 from pneumonia, aged 46.

Dr. Boyd's funeral was held March 4. Every business house in Newton, a town of 5,000 inhabitants was closed as a mark of respect to Dr. Boyd. Many neighboring physicians were in attendance and the Jasper County Medical Society attended the funeral in a body.

CHANGES OF LOCATION

Dr. J. H. Goad, of Ellston, has located in Afton.

Dr. R. W. Mendelson, a graduate of the Northwestern Medical College; a former medical officer in the United States Navy, recently a student of preventive medicine in Harvard University of Technology, has located at New Hartford.

Dr. W. F. Brinkman, of Rolfe, has recently located in Des Moines.

Dr. C. G. Baird, of Mt. Vernon, has removed to Cedar Rapids.

Dr. F. A. Gillett, of Oskaloosa, has moved to Fremont to take charge of the practice of the late Dr. L. A. Combe.

Dr. A. Naffziger, of Wayne, Nebraska, has located at Merrill.

Dr. F. J. Rohner, of Algona, has accepted a position in the hospital at Iowa City.

Dr. J. F. Standeven, recently a practitioner in South Dakota, has located at Avoca.

Dr. Martin Joynt, of Jesup, has sold his practice

to Dr. R. W. Allen, of Gilbertsville, and will take a post graduate course at New York.

Dr. M. B. Coltrane, of Mackburg, has removed to Afton, his former location.

Dr. James Miller, of Paton, has removed to Danville.

Dr. T. C. Gorman, of Anamosa, has removed to Cedar Rapids.

Dr. J. W. Hill, of West Liberty, has recently removed to Red Oak.

Dr. Howard Young, has located at Martelle, Jones county.

NEWS NOTES

Cedar Falls has recently dedicated a new \$50,000 hospital.

The hospital at Webster City has just cleared its indebtedness by gifts from two individuals.

Dr. Kate Stevens Harpel, of Boone, recently underwent an operation at the Eleanor Moore Hospital.

Dr. J. A. Burket, formerly of Logan, who has been on duty three years in the Philippines and China has been appointed U. S. Army Surgeon at Fort Logan, Colorado.

Dr. G. G. Bickley, of Waterloo, who has been confined to his home for several weeks with blood poisoning is now able to return to his professional duties.

The Ward Memorial Hospital, at Primghar, has been completed. O'Brien county is indebted to Mr. and Mrs. George W. Ward, of Primghar, for this new \$8,000 hospital.

Dr. F. F. Simpson, treasurer of the Committee of American Physicians for the aid of the Belgian profession, reports that up to February 20, 1915, \$3,579 has been received and \$3,575 disbursed for this purpose.

Dr. G. Walter Barr, the noted author and a former member of the faculty of the College of Physicians and Surgeons, Keokuk, has been appointed efficiency engineer on the staff of Dr. George P. Magill, president of Highland Park College, Des Moines.

One of the most worthy measures to be introduced in the legislature this session is the bill authorizing a Child's Welfare Research Station to be located at the State University. The bill carries an appropriation of \$50,000 and creates three salaried positions for complying with its provisions.

This bill has been introduced in both the house and senate and has received much favorable comment. It is to be hoped that such a worthy project may become a law.

A bill has been introduced in the Iowa legislature providing for an appropriation of \$15,000 for the establishment of a bureau of vital statistics. Dr. F. L. Watkins, special agent for the bureau of census, Washington, D. C., appeared before the committee of public health in the interests of this bill. Iowa is one of the few states that has not taken steps

to secure a complete registration of births and deaths.

Dr. F. S. Leonard, of Cascade, met with a peculiar accident recently. While eating a piece of turkey gizzard, he bit into a needle which lodged in the gum back of his front teeth. The attendance of a physician was required to remove it. The turkey had evidently carried this needle for some time.

Dr. F. S. Smith, of Nevada, is the possessor of a very rare medical book, "The Anatomy of Bodies" printed by Awnfhan Churchill at Black Swan in Avenue Mary Lane, 1688. The book contains autographs dating as far back as 1700 and was presented to Dr. Smith as memorial of the late Dr. Charles Enfield of Jefferson.

The Journal of the American Medical Association on July 18, 1914 published an article on Wine of Cardui, a patent medicine manufactured by the Chattanooga Medicine Company. As a result of this article suit was brought against the Journal of the American Medical Association and its editor for \$300,000.

If any of the readers of the Journal of the Iowa State Medical Society desire to read more extensively on this subject they are referred to the Journal of the American Medical Association, issues of July 18, 1914, December 5, 1914 and February 27, 1915; Harpers Weekly February 27, 1915; The Epworth Herald, February 13, 1915, p. 160.

Dr. A. W. Slaughter, of Wapello county, is supporting a measure in the present legislature for an appropriation for a Medical Department in the State Library. The object is to have all books pertaining to medicine and surgery now owned by the state gathered into a department for the reference of physicians and students. The amount of the appropriation asked for purchase of books and equipment is \$2,000 and an extra \$2,500 for the salary of a librarian for this department.

Dr. F. W. Sells, Osceola, reports that on February 7, Mrs. Nellie Parker, while enroute from McCook, Nebraska, to Pleasanton, Indiana, fell in labor and while the train was standing at the station in Osceola and before assistance could be secured she was delivered of a daughter. She was removed from the train and at last reports mother and child were doing well. In the face of the talk about the decrease in birth rate, it is interesting to know that Mrs. Parker was accompanied by five children, the oldest only nine years of age.

A bill has passed both the house and senate of the 36th general assembly of Iowa whereby poor children suffering from a deformity or a malady may be taken to the state university hospital for corrective treatment at state expense. The expense of examination of such children to be paid by their respective counties; hospital and transportation expenses to be paid by the state and the physicians at the university hospital to donate their services.

Under the advantages of this bill, the unfortunate children of the state will have as much care given them as is given poultry and animals. In fact it is

stated that this appropriation is but little more than that which is made for the care of bees. Of how much more value are children than bees! The state will thus assist in making useful citizens out of many who otherwise might become public charges.

Dr. J. W. Coakley, of Creston, has introduced a bill in the legislature for the construction of comfort stations in every city over 2,000 population. According to the measure, cities between 2,000 and 8,000 population shall be required to maintain at least two comfort stations, one for each sex. Cities over 25,000 shall have four stations, and two additional stations for every 35,000 population.

FEWER DEATHS FROM TUBERCULOSIS

The death rate from tuberculosis (all forms) declined from 149.5 per 100,000 population in 1912 to 147.6 in 1913. The rate from this cause shows a continuous, though irregular, decline from year to year since 1904.

The death rates from cerebral hemorrhage (apoplexy) and organic heart diseases and endocarditis also declined as compared with 1912, the former from 75.7 to 74.6 per 100,000 population, and the latter from 151.2 to 147.1. These rates, however, are higher than in most of the years between 1900 and 1912.

Although the rates for typhoid fever, scarlet fever, diphtheria and croup, pneumonia (all forms), and diarrhea and enteritis (infants under 2 years) show increases as compared with 1912, there has been a general and pronounced decline in the rates from these causes since 1900.—Bureau of Census, Washington.

DEATHS CAUSED BY AUTOMOBILES AND HORSES

That the automobile, in spite of the rapidity with which it has come into general use, is still less deadly than the horse, might be inferred from the fact that the mortality incident to its operation was less in 1913 than that chargeable, directly and indirectly to man's faithful but sometimes erratic friend. During the year the number of deaths resulting from automobile accidents and injuries was 2,488, while the number due to injuries and accidents caused by other vehicles (principally horse drawn) was 2,381, and the number caused by animals (principally horses), was 540. The corresponding figures for 1912 were 1,758, 2,221, and 543. A few fatalities caused by motorcycles and bicycles are included in those due to "other vehicles," and a small number chargeable to animals other than horses are comprised in those caused by animals; but, after making due allowance for these factors, there still remains a considerable "margin of safety" in favor of the automobile. Deaths due to railway accidents and injuries during the year numbered 8,212, and those resulting from street-car accidents and injuries, 1,998. The corresponding figures for

1912 were 8,209 and 1,832. For the first time the number of fatalities due to automobile accidents and injuries exceeds the number resulting from injuries caused by other vehicles and also exceeds the number due to street-car accidents.—Bureau of Census, Washington.

A correspondence course for health officers is announced by the University of Wisconsin Extension Division. This course has been prepared to meet the need and desire frequently expressed for better preparation for local health administration. It is designed for health officers not able to pursue or warranted in taking residence work, as well as for others desiring to take up the study of health administration.

But few communities are prepared to employ on full time thoroughly trained sanitarians, according to the bulletin announcing the courses. Yet there is not a single community that does not need expert sanitary work in some direction. The topics treated in this course will cover laws and regulations, vital statistics and health surveys, transmission of disease, nuisances, and administration of a health department. The administration part of the course will treat of inspection work, visiting nursing, medical inspection of school children, quarantining, isolation, and disinfection, use of laboratory, registration and other subjects.

THE SAN FRANCISCO SESSION AMERICAN MEDICAL ASSOCIATION

Hotels

The Palace Hotel has been selected as general headquarters and ample hotel accommodations assured at reasonable rates for all who will attend.

Routes

There will be three routes, northern, central and southern and the one selected for the Iowa delegation will be announced in next month's issue of the Journal, which will join the delegations from Chicago, Twin Cities and Omaha.

Rates

The following will be the differential round-trip rates, March 1st to November 30th, returning limit three months, on central and southern routes, but \$17.50 more going or returning over northern route.

Clinton	\$60.61
Davenport	59.25
Dubuque	62.50
Cedar Rapids	55.68
Des Moines	55.68

Other Iowa towns proportionately same rates and standard lower berth Pullman sleeper \$11.00 to \$12.00.

The Iowa delegation will have three standard Pullman sleepers, diner and observation car and one sleeper has already been filled.

J. W. Cokenower.

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MYOCARDITIS*

H. C. ESCHBACH, M. D., F. A. C. S., Albia

The average individual has approximately one-thirteenth ($1/13$) of his weight in the form of blood. If he weighs one hundred seventy pounds, he carries thirteen pounds of blood.

Whether sick abed, or only ailing, or just beginning to feel the first signs of incapacity for work, the ability of his heart to properly circulate this one-thirteenth of his weight through the various arterial and venous vessels and capillary tracts must be taken into consideration.

It would be well, perhaps, if we always kept in mind this fact before administering any medicine; that we might always consider what effect the medicine will have on the patient's heart and circulation. We pay considerable attention to the valvular lesions—to the leakages and stenoses of the valves, but do we as often consider the condition of the myocardium—the most important muscular structure of the body? The muscle, which in life, is never, can never, be at rest; the muscle that must propel one-thirteenth of our weight, as it were uphill, or more than uphill—against a certain arterial tension, or as we might say, under brakes.

We may suspect that acute myocarditis is present in most of the acute infections, depending on their intensity and prolongation. This disturbance of the heart is often unrecognized, the symptoms often indefinite, and the diagnosis often scarcely possible. Yet, we do recognize its existence whenever we say, "the heart is growing weaker from the fever process." The acute infections most apt to cause myocarditis, are diphtheria, scarlet fever, typhoid, pneumonia, influenza, rheumatic arthritis, sepsis, etc. In the specific fevers it is the specific infection which gains access to the heart muscle and excites inflammation. Whether in rheumatic arthritis it is some secondary infective agent that is responsible for the myocarditis, or the rheumatic poison itself, is difficult to demonstrate. Most authorities believe it is the intensity of the infective agent and not its continued action which pro-

duces the myocardial inflammation. Others believe it to be doubtful if any severe fever process can be prolonged for many days without some myocarditis.

The lesions of myocarditis are most definite in the ventricular walls, on account of the greater work thrown on this portion of the muscle. In the purulent form of myocarditis associated with pyemia and ulcerative endocarditis, we have the septic emboli and abscess formation, which rapidly embarrass the heart's action and lead to early fatality.

But even in the simple acute interstitial myocarditis, we have fatty degeneration of the muscle fibers, and often profound destruction of the muscle cells, with retention only of the reticulum. If these processes are very marked, then the softening and weakening of the myocardium permits of acute dilation on even so slight an exertion as sitting up in bed, and this accounts for the sudden deaths occurring during the convalescing period following diphtheria, typhoid, and other acute infectious fevers.

Subjective symptoms are not always present, or at least not always pronounced, and great care on the part of the medical attendant is required to detect the disorder in some of its milder forms, yet, it is important that it should be recognized, for sudden death does sometimes occur without very marked symptoms.

Whenever we have evidence of diminished heart power, in diphtheria especially, though it may occur too in typhoid, scarlatina, acute articular rheumatism and other acute infections; associated with pallor of the countenance, a pulse, characterized by feebleness and emptiness, or loss of volume or irregularity in force and volume; with a slight exertion sending the pulse up out of all proportion to the exertion made, we are safe in assuming that the myocardium has felt the force of the toxins of the disease and will need careful watching.

Whether or not the physical signs are present or marked, because the course of acute myocarditis is very variable, and may arise insidiously and be latent throughout, even up to the moment

*Read before the Sioux City meeting, Iowa State Medical Society, 1914.

of sudden and unexpected death; whether or not we have the signs of venous stasis, of edema, of scanty and albuminous urine, because these conditions are determined by the degree of circulatory embarrassment, if we have the expression of diminished heart power mentioned above; if it is accompanied by præcordial oppression and anxiety, or of substernal pain, either dull and oppressive or poignant in character, we must be strictly on guard against the probable existence of myocarditis. We must keep this probability in mind under these circumstances, even though the positive diagnosis cannot be made, for the prognosis, even in simple myocarditis, is always grave and in the purulent variety, absolutely so, and the treatment is largely preventative.

We want to remember that prolonged high temperature, associated with the infectious fevers, and prolonged septic processes, are apt to produce acute myocardial degeneration. We need too, to remember that long anæsthesias produce a lack of tonicity and a disturbance of the heart muscle. Therefore, after anæsthesias for grave operations, after all illness lasting more than a few days, we should caution against early physical effort, sudden rising, attempts at walking too early, over indulgence in food or drink; any of these may cause acute dilatation, and often with disastrous results in a heart muscle already weakened by myocardial degeneration.

To prevent the development of the myocardial inflammation means, in diphtheria (where in my own experience in my earlier years of practice it occurred most frequently) the early use of the measures to lessen the activity of the primary disease, antitoxin administered at the earliest possible moment, and in doses sufficient to combat the infection, will often save us the anxiety which comes from a heart muscle threatening to quit work. But in scarlatina, typhoid and rheumatic fever we have no specific remedy, and hence we must seek to promote elimination through the kidneys and skin by copious and frequent draughts of water and if need be with subcutaneous and rectal injections of saline solution.

If præcordial pain and restlessness are marked, morphin must be administered. For we must remember that no where in the body should pain be so promptly combatted as in the region of the heart. Nothing so radically upsets the compensation of the heart as severe pain. Morphia hypodermically administered may be considered as an abortive treatment in the cardiac inflammations, since nothing else so tends to inhibit the inflammation as the quietude of action that comes from the absence of pain. The quieter the patient, the quieter the heart. If we could give the muscles

absolute rest we would naturally do so; as we cannot do that, we must insist on rest in bed in the recumbent position. Physical effort of any kind is dangerous and may be perilous. Above and beyond the need of any or all medicines and forms of therapy, the need of rest is imperative, —rest of body and mind.

The diet must be mild and easily assimilable; the bowels must be kept active, but depleting purgatives avoided. Where needed, in the presence of threatened collapse, ammonia or alcohol if indicated, or camphorated oil, or ether should be administered, and strychnine is highly serviceable when the blood pressure is low, with a soft, feeble, compressible pulse.

If acute myocarditis is known to be present should digitalis, strophanthus, and like cardiac stimulants be given? If given at all, it should be cautiously and tentatively, for we should remember that we are dealing with a heart muscle, not only in the process of inflammation, but in the process of fatty degeneration,—a process of softening and weakening, and we are not prepared to say how much of the myocardium is left in condition to respond to stimulation; how much is damaged by the degenerative process, and may be further damaged by stimulation. If we could give the muscle absolute rest we would certainly do that. As we cannot do that we should give the cardiac stimulants very cautiously, or withhold them, just as we should withhold the whip from a tired horse, ready to drop with exhaustion.

Absolute, physiological rest in the recumbent position is the first demand. The surface circulation maintained or improved by hot or cold applications, as the disease or condition calls for, and massage to promote the return circulation, and free elimination through all the emunctories. These are the measures calculated to lighten the load of the heart, and give its muscle time and chance to regain its normal tone. Make the convalescence slow, trying to keep the demands on the heart's activity just below the strain it is able to take, will often mean the difference between sudden dilatation and death, or at least a permanent cardiac defeat, and the gradual return to health and cardiac sufficiency.

In the chronic variety of this malady, we have a condition which is not associated with inflammation and ordinarily is not a sequence of the acute form, and when it is so, is the final or reparative stage of it. It is a slowly progressive, chronic process from the beginning. It is a disease of old age or premature age. Most people who after middle life begin to show signs of cardio-vascular disturbance are not victims of

valvular disease, but of chronic myocarditis. This is a chronic degenerative process, with the development of connective tissue, and often associated with fat deposits and fatty degeneration. It is a fibrosis or fibro-sclerosis. In general terms we may say that whatever causes promote general arterio-sclerosis, may also cause myocardial degeneration.

When you can enumerate the protean and complex causes producing arterio-sclerosis, I can give you the causes of cardio-sclerosis.

But in addition to the usually enumerated causes, there seem to be some cases in which the only cause seems to be excessive, hard physical labor, and in others prolonged anxiety and worry. As this chronic form is not an inflammation, it is likely that we must include under this catalogue more cases of cardio-vascular trouble than we could demonstrate in a clinical observation.

I suspect that the man going along the street in apparent health, who suddenly drops in instant death, is more likely the victim of myocardial degeneration than of valvular disease. I suspect that the pulpit orator, who in the midst of his sermon, drops in instant death; the after-dinner speaker, who in the midst of his story, suddenly closes his lips in death; the brilliant statesman, who sitting in his chair, dies, while the physician is reading his pulse—all are the victims of chronic myocarditis. Certain it is that they are rarely the victims of apoplexy, though often recorded in that class.

Generally the first indications of these myocardial changes, are progressive weakness—noticeable on slight exertion, slight palpitation or irregularity, shortness of breath, leg tire, and mental tire, sleeplessness, a disinclination to lie on the left side when previously the patient was accustomed to sleep on that side without discomfort; mental irritability, and even mental deterioration, as shown by slowed intellection: occasionally some edema of the lower extremities, insufficiency of urine, a previously high blood-pressure becomes lower, the pulse intermittent or irregular, slight cardiac pains or sensations referred to the cardiac region, or most likely to the substernal region. In short the patient becomes conscious of his heart, possibly for the first time in his life. Examination may or may not show increased absolute dullness, and the heart sounds may appear normal. There is no pathognomonic sign of this degeneration. Not infrequently a heart undergoing the fibrous change, functionates perfectly until some sudden exertion, as lifting, running, or great physical excitement, or acute indigestion, suddenly destroys perfect co-ordination, and the heart becomes weak and laboring,

and rarely regains its former strength and tone.

From this picture of cardio-sclerosis of moderate degree, we may have all the variations and exaggerations of degrees up to severe cardiac asthma and including angina pectoris in its most agonizing form.

The sooner a patient with a heart undergoing myocardial degeneration learns that his activities are restricted and his life narrowed, the better for his future. He must avoid severe physical effort; avoid excitement; avoid mental tire; avoid over eating or drinking; abstain from alcohol, tea, coffee and tobacco—or greatly reduce the quantity consumed; reduce the amount of meat ingested; relieve intestinal stasis; secure daily, free evacuations of bowels; secure free elimination from kidneys and skin, by use of water internally and by baths; and only to take daily such physical exercise as can be done without fatigue.

The comfort, even the life of the patient, depends on the relation between demands made on the heart and its ability to respond. When serious symptoms set in there is small prospect of medical skill being competent to do more than patch up the crippled organ, and cardiac incompetence once established, the best management can do no more than defer the evil day.

As a rule medical aid is not sought by these patients till the inadequacy of the myocardium has become apparent, and it is important that at this stage we should not assume that the inadequacy is due merely to some ephemeral cause, such as gastric disturbance and flatulence on the one hand, or on the other, assume that because there may be accidental murmurs, the incompetence is due to a valvular lesion, and proceed to administer digitalis in routine manner.

I do not care to discuss the drug treatment of this malady, but rather to insist on its recognition at as early a stage as possible, in order that measures to prevent a distressing condition from becoming worse may be promptly instituted.

Its diagnosis is largely a matter of probabilities and depends much on the experience and judgment of the physician. There are few guideposts and no pathognomonic signs. Hurchard's emphatic statement concerning cases of myocardial disease is always to be born in mind; "Their evolution is latent, their beginning insidious, their course paroxysmal, their progress interrupted, their visceral complications various, and their explosions of cardiac insufficiency are sudden."

But a proper modification of the mode of living, restricted activities, controlled exercise, with the administration of such therapeutics as the

varying conditions may indicate, may permit a patient with myocardial degeneration to live a long time in comparative comfort and pursue a more or less useful career.

DISCUSSION

W. L. BIERRING, Des Moines: I was unfortunately not present for all of the paper, but what I did hear impressed me by the very logical and sensible consideration of the subject of myocardial disease.

I was glad to hear the essayist refer to myocardial disease as a degeneration rather than as a form of myocarditis. Most of the chronic disturbances of the myocardium are not inflammatory processes; but rather of a degenerative character, followed by more or less replacement fibrosis. One of the interesting features about myocardial disease is that the individual seems to be able to get along on a comparatively small amount of normal myocardium, and I think nowhere in medicine do we see such wonderful examples of recuperative power as in these old myocardial cases. One recalls intermittent attacks of myocardial insufficiency extending over a great many years; yet the individual gradually recovers and lives in comparative comfort, at least, for a great many years. Even though there may be but a very small amount of normal myocardium remaining, that particular muscle can often be stimulated or improved to an unusual extent by the ordinary means. I feel that here is one of the instances where digitalis is clearly indicated,—in moderate or so-called tonic doses—five drops of tincture, three to four times a day—being sufficient to promote a stimulating or tonic effect, so that the individual lives in comfort and is freed from many of the uncomfortable symptoms. Often in attacks of angina, even though this condition be accompanied by high blood pressure, and thus contraindicate the use of digitalis, it seems nevertheless to be beneficial.

These cases of chronic myocardial disease are often favorably affected by certain forms of physical therapy as represented by the carbonated or Nauheim baths and the Schott or Ortner method of graduated physical exercises.

A faithful co-operation on the part of the patient is an important essential to accomplish the best results.

SHOCK*

CHAS. B. TAYLOR, A. M., M. D., What Cheer

In the study I have made, it has been with the view to learn how to prevent, or if not possible to prevent, to lessen either during or after operation—SHOCK.

From the mechanical side, technically perfect operations are being performed in the private houses, small hospitals as well as great all over the world.

Each surgeon has minor modifications which show his individuality in any given case and in any given type of operation but in the main all operations are standardized.

It would be difficult to do more than make minor changes in operations on the thyroid, gall-bladder, appendix, stomach, intestines, pelvis, hernias or on the extremities. Never before were there so many surgeons who are capable of performing technically perfect operations. But with this perfection in technique comes the yet more keen realization that too many patients die, are moribund or are embarrassingly slow in convalescence.

With a simple operation for chronic appendicitis we know that there should be no mortality and we feel that in a very few weeks the patient should be at par; yet there is a slight mortality and not a few patients fail to regain normal tone in many months.

If autopsy were held in such cases what would we find? Hemorrhage? No. Any broken stitches? No. The operation was all right—but what we do find is: degenerative changes in kidneys, liver, heart and brain cells; the results of what we call "SHOCK."

Candidates for operation are classified as good, medium or bad risks according as the surgeon is able to *foresee*; and yet how often the good risk terminates badly and the bad risk makes an uninterrupted recovery. These adverse results may or may not be due to pathological complications unexpected. They may follow simple and uncomplicated operations skillfully performed. Since it has been impossible to prognose accurately the degree of damage a given patient will suffer from an operation, when the surgeon is reasonably certain as to the amount of mutilation necessary to a technically good operation; surgeons have everywhere longed for a release from the anxiety and the uncertainty attendant upon operations which apparently should give no anxiety.

If operation is skillfully performed we can expect no more from that source. Halstead taught us to cut and not tear; to tie the artery alone without including a mass of extraneous tissue; to lose no more blood than absolutely necessary.

The time element has been considered and the good surgeon operates as rapidly as is consistent with thoroughness.

Known bad risks must often be operated, and it is no special consolation to the surgeon that before the operation he can say to his patient you will probably die on the table or soon after removal from the same.

*Read before the Sioux City Meeting, Iowa State Medical Society, 1914.

With the feeling that but little more could be hoped for in the further perfection of operative procedure; with the understanding that patients will always differ in their ability to withstand surgical interference; with an innate desire to lessen the mortality rate and shorten convalescence, surgeons have traveled every known avenue of thought and science in search of that which will prevent or lessen shock.

Crile says shock is "Exhaustion." "That there is in each individual at a given time a limited amount of potential energy. That motor activity following each adequate stimulus diminishes the amount of this potential energy; that in any animal a sufficient number and intensity of the stimuli lead inevitably to exhaustion or death."—Keen Vol. VI.

"Man is essentially a motor mechanism of many parts which are integrated by the nervous system. This neuromotor mechanism is driven by the stimuli of environment, whenever excessively driven exhaustion is produced. The evidence of exhaustion is seen in the altered function of many organs and of morphologic changes in the brain cells."

By a large amount of experimentation on animals it was learned that psychic stimuli act similarly to mechanical stimuli and that the results were identical. Fear produces the same physiological changes as injury.

In Crile's laboratory 312 individual brains, human and animal were studied. "Forty-eight were normal and 264 had been modified by disease or injury." "These studies included acute and chronic emotional excitation of rabbits; acute physical injury of dogs under inhalation anesthesia; emotional stimulation in a dog; dog fights; foxes chased and killed by hounds," etc.

"The human material included the brains of a workman killed almost instantly by falling from a high building; a young man killed by stabbing; a man shot through the heart," and those having died of diseases both acute and chronic.

It was shown that in rabbits subjected to acute fear if killed immediately the Nissl substance was increased, but if killed six to eight hours later there was found to be a marked deterioration of the brain cells. In rabbits subjected to chronic fear whether killed immediately or twelve hours after the last exposure to fear, a marked degeneration of brain cells was found. In foxes chased and killed by hounds deterioration was seen. The brain cells of a dog after a severe fight showed deterioration. So also animals subjected to trauma under morphine, curare or inhalation anesthesia, showed typical brain cell changes, not occasionally but in every instance; showed the

same brain cell changes as if subjected to trauma without narcotics or anesthesia; except as modified by the elimination of fear.

The practical value of these experiments lies in this—that it is demonstrated beyond question—perhaps—that though general anesthesia lessens the horror and eliminates the pain during operation, a large part of the brain is not asleep, but in a receptive mood and receives all injurious impulses from the areas being traumatized; that it gives off of its potential energy in exact ratio to the injury done to the nerves at the sight of operation, and that the patient suffers shock—actual brain cell deterioration with loss of function of the various organs of the body as secondary phenomena—in just such proportion as the expended potential energy.

It was further shown that a dog whose spinal cord was separated and the dog kept in good physical condition for months following the severance, might be subjected in the paralyzed quarters to every kind of trauma, cutting, burning and crushing of the tissues; that since no impulses could be transmitted to the brain, no energy was expended by the brain; no brain cell changes were noted; and during the procedure there was no increase in heart action, in respiration and no lowering of blood pressure.

What then should be the deduction? If an animal without anesthesia shows lowered blood pressure and brain cell deterioration in exact ratio to the amount of trauma; if the animal under general anesthesia shows practically the same amount of brain cell changes and lowered blood pressure in proportion to the trauma; and if as in the case of the severed spinal cord there is not brain cell changes and no lowered blood pressure and no increased heart action, no matter how much nor of what nature the injury to the parts; then the natural deduction would be that if some means of intercepting these injurious impulses can be instituted, so that they can not reach the brain,—then shock will be eliminated. It is not possible to cut the wires in general surgery but if it be possible to "short circuit" the current, both the engine and the machine will be conserved.

Chloroform has been thoroughly tried and abandoned. The patient is easily relaxed under chloroform anesthesia, the post-operative discomforts are small; but the toxic element is proportionately large. Degenerative changes in the various organs were many, and sudden deaths both during and after administration were not uncommon. Ether by the "open drop" method, while not so agreeable as chloroform, is much more safe. Keen says that one in sixteen thou-

sand die from ether. The average unskilled anesthetist can administer ether with less immediate apparent danger than any other anesthetic in general use. But on careful tests it is shown that the various evidences of shock are present in operation under ether. Cocaine injected into nerve trunks is too toxic—nerves having a special affinity for cocaine—death having been caused by injection into nerve of 7 cc. of a 1 per cent solution.

Tropacocain and stovain injected into the spinal canal are favorites with some. Jacobson is a strong advocate of spinal anesthesia by stovain but says: "If blood pressure drops he gives strychnia and digitalin hypodermically" thereby admitting shock. Local anesthesia has been extensively used by some and should be more extensively in use. Where the operation is not severe in type and where the psychic element need not be considered, local anesthesia is ideal. It blocks the transmission of injurious stimuli to the brain centers and thereby forestalls any brain cell deterioration,—if the infiltration has been complete.

Novocain with quinine and urea injected into the nerve trunks between the site of operation and the brain is the favorite anesthesia with M. L. Harris of Chicago. He uses a 1 to 400 to 1 to 200 novocain along with quinine and urea from 1 to 400 and 1 to 200. By this method all injurious stimuli are blocked from the brain which are of a traumatic order. He claims for his method that there are no evil results; that his patients are pleased and would not consent to a general anesthetic. He claims that he has done neck gland dissection, goiter, carbuncle, gastro-intestinal, all forms of intestinal and pelvic surgery, and bone plating of the extremities.

He says there is no shock, no lowered blood-pressure, no increase in respiration or pulse. He claims that the freedom from loss of consciousness is a decided asset. After watching him perform a number of operations by this method it seemed to me that the injection into the nerves as they emanated from the spine, is an operation of itself. To the onlooker the patient seemed to tolerate about all that was possible in the injection. But after the injection was completed and anesthesia produced, then the operative technique was done with, little or no inconvenience to the patient. If Crile's conclusions that psychic distress in the form of fear produces identical brain cell changes as in trauma, then it would seem that Harris' method was faulty, in that the psychic is not given consideration.

As far as I know Harris does not claim to

have made any histologic studies of brain cells either in animal experimentation or in patients having died following operations by his method. However, it is probable that we should learn more of this procedure.

Crile has instituted a procedure in the preparation of the patient, in the anesthesia and operation which, if consistently carried out, he believes eliminates shock entirely. Both nurses and surgeon are to treat the patient from the beginning with the greatest consideration. One to two hours before operation the patient is given morphin and scopolamin hypodermically with the purpose of allaying any fear that might be present. At time of operation the patient is given nitrous oxid gas, which as he believes has been demonstrated to be much less toxic than ether if toxic at all. It is also less nauseating, is pleasant to inhale, does not prohibit nor hinder phagocytosis as does ether, therefore will not invite pneumonia nor nephritis.

Layer by layer, before cutting, each is infiltrated with a 1-400 novocain.

Within the abdomen if work is to be done upon the stomach or intestines no infiltration is necessary as these viscera contain no noci-receptors. No damage is done unless by pulling or stretching of their attachments.

In the pelvis it is necessary to infiltrate before cutting as these organs are well supplied with noci-receptors. The peritoneum is highly endowed with noci-receptors, therefore in closing the wound Crile infiltrates widely to each side of the incised peritoneum with quinine and urea, thereby preventing wound pain from three to four days following the operation.

Bloodgood in discussing Criles method says: "For the ordinary healthy patient operated; the difference in shock between the general and the combined general and local anesthesia will not be great during the operation; but the post-operative difference is great, in comfort and period of disability, and that the mortality difference in handicapped patients in serious and prolonged procedure, is very great."

Crile claims to have lessened his mortality rate more than one-half in every kind of operation including emergency operations. He claims to have greatly lessened the convalescent period.

This method is elaborate. Nitrous oxid gas is expensive as compared to ether. Operation is much slower since each layer must be infiltrated before being cut. It demands a special skill for doing perfect work in infiltration and a special knowledge of the sensitive areas to be infiltrated. It demands a specialist for the administering of the anesthetic.

But if the conclusions are correct that the mortality rate in all cases operated of every kind can be reduced yet 50 per cent, and the convalescent period be lessened by as great a percentage—then it goes without argument that the newer method should be instituted in rural and hospital practice despite the extra expense and skill demanded.

Since shock is a real entity, producing degenerative changes in the brain and even total destruction of some brain cells; producing also degenerative changes in heart, liver, kidneys and blood vessels; then it can readily be seen that the treatment of shock is in its prevention.

DISCUSSION

J. L. AUGUSTINE, Ladora: To me this is one of the most valuable papers that I have had the privilege of listening to, because it has in me awakened a desire to investigate a method of preventing shock about which I know very little. I have for some time, as perhaps is the case with most of you, known or heard something about the method of Crile in preventing shock, but I have never carefully investigated it and never had the privilege of trying it out; and the value of this paper to me is that it is going to make me investigate along this line.

I am interested in the prevention of shock, as is every one who has anything to do with surgery. The essayist has quite completely covered the ground, and there is very little that can be said that will add to the value of the paper. The prevention of shock in many instances is well worth one's attention. With the big, strong patients you can do a great many things without endangering their lives, but with many others a very little will make the difference between life and death. I do not think we see shock as much as we formerly did because the patients are better prepared. The method of using violent cathartics for a number of days preceding operation has been abandoned. While the patient's bowels should be emptied, the violent catharsis that was formerly used, has been found to be injurious and unnecessary. The preparation of the patient's skin is another thing. We now have a different method of disinfection. The iodine method does not require that the abdomen be scrubbed and the bichloride pad used for twenty-four hours preceding the operation. This is a valuable help, because in those instances the patient was kept awake during the night by the unnatural condition. Attention was directed to the operation, and he was in a state of fear and anxiety. I have noticed for a long time that the patient who can go to bed and sleep all night and feel rather indifferent to the operation is more likely to get along well than the patient who stays awake and worries about the situation.

The anaesthetic is a most important consideration. I feel that a good anaesthetist is of far more importance in the operation than a good assistant. An

anaesthetist who has the ability to calm the fears of his patient, and rapidly and easily get him under the anaesthetic and hold him there—not too deeply, and yet not permit him to come out, is a very valuable asset in performing operations, with the idea of preventing shock. The sloppy methods that were formerly used in preparing patients have largely been done away with.

Prevention of radiation of the patient's heat is an important consideration in the prevention of shock. The patient should be kept comfortably warm during the operation, and the operation should not be continued too long. Most operations ought to be completed inside of an hour; operations that are much longer than that can't help but produce shock, and most operations ought in some way or other to be finished within that length of time. Whenever the abdomen is opened there is always some condition of shock. By being careful in handling the intestines a great deal can be done to prevent shock. I think those things are well known by every one, yet they are not as carefully carried out as they should be. Many times there is carelessness in unnecessarily permitting the intestines to come out of the abdomen; in handling them and in preventing loss of heat and moisture.

G. N. RYAN, Des Moines: My brother and I have been especially interested in the last two years in looking up this subject of shock, and my brother went down to Cleveland and stayed a number of weeks, was operated on there for hernia by Crile, and experienced what it was to have his method exemplified. The last two years we have watched our cases very carefully, and have kept accurate data as to the conditions before and after operation. Those who say that there is nothing in it and pooh-pooh the idea simply show their ignorance. I will cite just two cases to illustrate.

Ten days ago we had to operate upon a gentleman 72 years old with a very large prostate. He was very weak, exhausted, poorly nourished. We used local anaesthesia, as has been indicated by the essayist. The abdomen was opened—we did not have the nitrous oxid and oxygen which we have used in a great many instances, but using chloroform very carefully, the bladder was opened, the prostate was removed, and when we inserted the tube and closed the opening the old gentleman wakened with the knowledge that the dressings were being applied. One-half of an ounce of chloroform was used. There was practically no shock; pulse 98 at the time of administering the chloroform, 70 at the time he wakened up.

The element of shock that we should consider is the fright the patient has when he or she goes into the hospital. This idea of rushing a case into the hospital and operating two or three hours after admission is all wrong, unless it is an emergency case.

Another case that I have in mind occurred within the last few weeks. The patient was entered with a dextrocardia—irregular pulse, and the husband insisted upon an operation the next day. We prevailed

upon him to bridge the case over by giving sedatives, and within a week the pulse became perfectly regular, the patient got acquainted with the nurses and the surroundings, and the anaesthetic was given very carefully. The patient went through and made an uneventful recovery.

The local anaesthesia that we use is usually given after the iodine is applied. Usually the iodine is applied half an hour before the local anaesthetic is used, and then possibly five minutes after the effect of that is had, I start the anaesthetic, and very much less is required. Where you would use twelve ounces of ether in using a local anaesthetic, you get through with three or four ounces, and the patient awakens and is not choked with ether, seldom vomits, and the element of shock is practically nil; you can hardly see the effect of it.

C. S. JAMES, Centerville: I wish to congratulate the author on presenting us with a paper that I believe is heartily in accord with modern surgical experience and practice, but unfortunately he has left us in the air. He has stated the fact preliminarily in his paper that he is going to advise us how to prevent shock, and how to treat it when present, and then leaves us with the statement that the best treatment of shock is not to permit shock to occur, and that is all. Now, I heartily subscribe to that principle, but I am afraid that if we are not careful with that, the profession is liable to do as we have done before many, many times—swing with the pendulum, and swing clear out into space, only to swing back again.

Now, that does not get us anywhere on how to prevent shock, and it would appear that that was to a very considerable extent the only treatment of shock. His prevention embraces a little more, in my opinion, than the half hour delay added to the period of your necessary operative time which is necessary in the successful infiltration of the tissues with the novocain solution. There is more to be considered than the simple infiltration. In Crile's work you must take into consideration the fact of his environments. From the moment a patient enters the institution until the time he is operated upon treatment against shock is being instituted, in the arousing and the stimulating and maintaining of the patient's confidence. There is the hospital energy, Crile's enthusiasm; and possibly a part of this may be the result of investigations and studies of brain cells, and again, possibly it may be the child, to a certain extent, at least (and nobody admires Crile more than I do), of Crile's enthusiasm. I have seen other operators claiming to institute Crile's procedure, and I am frank to confess to you gentlemen that if I had been the patient I would consider myself very much more fortunate under the operative technique of that same man without the effort to institute Crile's procedure. There is not only the psychic element to consider, but there is the question of the operative technique. There is too much discussion across the operating table between the assistant and the operator as to "What do you think

of this and that?" and "Gentlemen, let me show you this," and "Do you see this away down here?" Oftentimes the operator is trying to demonstrate a condition to the visitors, for financial purposes in the future, that he can hardly see himself, and only by reason of his tactile sense is he able to see that that condition exists away down deep in the abdomen; much less is he able to demonstrate it to the onlookers. Operators attempt oftentimes to do too much in the presence of a suppurative collection within the abdomen. I have seen operators attempt to do a gut resection.

A. J. BOOKER, Des Moines: Eight years ago I didn't know very much about Dr. Crile, and I believe he hadn't published as much as he has now; and I come to the defense of the prevention of shock rather than the treatment of shock, as the author has so beautifully said. Dr. Van Hoesen, who happened to be doing a lot of work at the hospital where I was an interne, did not have the assistance, I am sure, of people who were as enthusiastic as possibly Dr. Crile has, but I had the pleasure of following out over one hundred and fifty cases, and she would just bring them in and tell the internes what she wanted done, and we would do it the best we could. Operating under morphin and scopolamin anaesthesia, without the complex anaesthesia that Crile describes now, she was able to get very remarkable results, and more than that, as I wanted to say on Dr. Guthrie's paper, we never had any ileus following.

Pardon me; I am not a surgeon, but I have seen some surgical work. It is not necessary to often use a block dissection, as is described so elaborately by Crile, but we all know that unless we pull on the mesentery very hard there is no pain in the intestines; we can cut and burn them and do everything of the sort, and the patients don't feel it; and it is only when some fellow tries to pull them out that they have any pain; and if this scopolamin-morphin anaesthesia is given an hour and a half before the patient goes on the table, he is asleep; he doesn't know what is going on. If you haven't a brass band to keep him awake he goes to sleep, somebody takes him gently to the operating room, gives him another dose on the operating table, and he goes away with just as good a pulse, the urine is not loaded with casts and albumen, there is very little vomiting unless there is great disturbance of the intestines, and he wants to know when you are going to do the operation.

Some one asked Dr. Crile what he was going to do with a woman who has a double pregnancy. Of course this method cannot be used in every individual case, and no one is going to sacrifice a surgical principle to use a method; but this is one of the greatest things in the world to prevent shock, rather than to treat it after it has occurred.

G. E. CRAWFORD, Cedar Rapids: I think the writer is to be congratulated, as well as the society, on the able presentation that he has made of this very interesting subject which has been attracting

so much attention the last year or two in the work of Dr. Crile; but I feel in regard to the actual working out by others of this theory as does Dr. James. Dr. Crile is a surgeon of such superlative skill that his work would succeed under any theory, perhaps. Still I do not rise to decry the theory or its correctness, but simply very briefly relate a little personal experience—a very recent case—which shows that these theories, while they may be correct, yet unfortunately they do not always work out.

Just a few days ago a case of empyemic gall-bladder in a woman quite advanced in age and in bad condition was operated upon by us. The gall-bladder was leaking; she was in generally bad condition, and the feasibility of an operation was somewhat questioned, owing to the conditions. The Crile method was carried out to prevent shock, the infiltration, and nitrous oxide gas and oxygen anaesthesia. She stood the operation well; her condition seemed as good at the end of it as at its commencement. She did very well that day. By evening she began to show signs of trouble, and the next forenoon she died of ileus.

Another was the case of a young doctor with appendicitis, who did not wish to take a general anaesthetic, but to be operated on by the infiltration method. This was done. He did not suffer pain of any consequence under the operation, but before the operation was completed he had what appeared to be very profound symptoms of shock, broke out into a profuse perspiration, got pale, and these symptoms of shock in a gradually diminishing degree lasted for two or three days.

This is our personal experience, together with my son's, within just a few days or weeks. It does not always work out as the theory presupposes.

DR. TAYLOR: I am very glad that so many have thought it desirable to discuss this paper.

The fact has been mentioned by two or three of those discussing this paper that the operation, skillfully performed, was the thing. Nobody questions this in fact the paper stated that this was essential. You cannot tear and rip and pull and yet get good results under any kind of preventive methods for shock; there is no use in claiming any such thing. The fact that ether sufficient to produce anaesthesia, not only dissolves the lipoids in the brain, but also dissolves the lipoids in the heart and kidneys, cannot be gotten away from; it is a physiological fact. Therefore with these experiments—that have been made, when we discuss, we should have a knowledge of what shock is. We have all operated under ether, and know it to be the best thing that we have had so far; but the mere fact that this is a child of Crile's enthusiasm should not condemn it.

Crile is recognized as the greatest authority on shock in the world today. I cannot read the foreign news, but everything that has been said about shock in the English language in the last few years has practically been referred to Crile. I am sorry about that part of it; I was hoping that somebody else might be able to give us something new. Blood-

good, even with all his experimentation, and with his large knowledge of shock and how to prevent it, quotes Crile as being the greatest author.

CHOLELITHIASIS, LIKE APPENDICITIS, SHOULD BE TREATED BY EARLY OPERATION*

J. L. AUGUSTINE, M. D., Ladora

Twenty years ago the operation for appendicitis was of infrequent occurrence. Few surgeons operated except in the presence of pus. There was a consequent high mortality. It soon became known to surgeon and laity that safety and restoration of the patient's health depended upon an early operation for the removal of the appendix. Who does not remember the few years of turbulent discussion about the treatment of appendicitis? Today there is almost a unanimity of opinion as to what constitutes proper treatment, and it is rather infrequently that a patient with appendicitis is not treated surgically at the earliest opportunity. Appendectomy is popular, and is more frequently performed than any other operation, because of the widely disseminated knowledge that appendicitis is a surgical disease; that operation is simple and safe and its results uniformly good when performed early.

Development in the treatment of biliary infections has not proceeded as rapidly as it has in appendicitis. In appendicitis perforation of the appendix followed by peritonitis is a positive menace, death sometimes supervening in a few days, in a patient who previously seemed well. With the exception of phlegmonous cholecystitis, which is comparable to acute appendicitis in many respects, infections in the biliary tract are relatively slow in their destructive processes. Patients afflicted with cholecystitis or cholelithiasis may have repeated acute exacerbations in their disease with no immediate danger to life. The tragic death which sometimes shocks a community following appendicitis is of infrequent occurrence in biliary infections, although the final results are as disastrous when the various secondary pathological incidents and sequelæ are considered.

Evidence in appendiceal disease has been so well sifted and is so generally known that few cases of appendicitis escape immediate recognition, but an early diagnosis in cholecystitis or cholelithiasis is not often made. Many of the etiological factors which enter into the causation of these diseases remain to be discovered. Just why an infection which reaches the biliary passages will produce gall-stones in one instance and

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not in another is not perfectly apparent. The period of calculus formation is elusive. Most patients have reached middle life or beyond before the true nature of the affliction is recognized. In many cases years have elapsed after the formative period before there is any convincing evidence. Most frequently the early symptoms of gall-bladder disease are missed. Too many physicians insist on the patient's presenting the classic symptoms of biliary colic and jaundice before placing credence in a diagnosis of cholelithiasis. In Ochsner's¹ clinic it has been estimated that about 50 per cent of gall-stone patients had severe biliary colic, and less than half had jaundice as a sequence. Cholecystitis, which is frequently present in cholelithiasis, is often responsible for pain, but severe biliary colic and jaundice are usually due to the migration of stones into the gall ducts, and are late symptoms. When severe biliary colic and jaundice are required to establish a diagnosis it is evident that the disease will be recognized late and many cases will not be recognized at all. Postmortem findings indicate that a large number of persons who die have had gall-stones that were unrecognized during life. In Courvoisier's² gall-stone statistics, of the 16,025 bodies examined post-mortem 10.7 per cent had gall-stones.

Infections of the gall-bladder, like infections of the appendix, are capable of producing a chain of symptoms referable to some other organ. Some of the failures of diagnosis are due to this fact: stomach symptoms variously designated neuralgia of the stomach, hyperacidity, neurasthenia, indigestion and biliousness are often regarded as diseases of the stomach, when cholecystitis or gall-stones are responsible for the entire symptomatology. While early recognition of cholecystitis or cholelithiasis is much more difficult than the early recognition of appendicitis, careful history and examination should often elicit sufficient information to establish correctly a much earlier diagnosis than is usually made. The importance of getting a complete history from the patient cannot be too strongly urged, as it may have a more determining value in establishing a diagnosis than a physical examination. There are a number of diseases, including typhoid, appendicitis, gastric and duodenal ulcer and pelvic suppurations that may have a possible etiological bearing in the causation of infections of the biliary tracts. When any of them are found to have been present this should direct attention to the gall-bladder. Also there should be a correct appreciation of the association and interdependence of the abdominal organs, especially of the stomach, duodenum, pancreas and liver,

to be able to correctly interpret the various reflex symptoms that often seem to implicate the stomach, which is one of the most suspected and accused, yet dependable organs in the body. In evaluating stomach symptoms the possibility of gall-bladder infection should always be borne in mind. Diseases of the stomach not produced by or associated with other diseases are few. With present diagnostic methods their presence or absence can usually be determined. When disease of the stomach can be excluded, stomach symptoms furnish strong presumptive evidence of a diseased gall-bladder.

Physical examination in the early stages of gall-stones is valuable chiefly for its negative results. But one very important and constant physical sign of gall-bladder disease is described by Dr. A. J. Ochsner³: the patient is unable "to take a full inspiration when the physician's fingers are placed up underneath the costal arch in the region of the ninth and tenth ribs. The diaphragm forces the liver down until the sensitive gall-bladder reaches the examining finger when the inspiration suddenly ceases as though it had been shut off. As indicated by Dr. Ochsner this symptom is produced in varying degrees, but in the early period of the disease, where convincing evidence is most essential, it often will be difficult to elicit it. In differential diagnosis there may be difficulty in distinguishing between cholecystitis, ulcer of the stomach, ulcer of the duodenum, pericholecystic and perigastric adhesions.

Failure to recognize the patient's ailment is a serious hindrance to the rapid development of either medical or surgical treatment. The long period of time that often elapses before an infection of the gall-bladder results in gall-stones, which in turn, after a long lapse of time produces other menacing pathological events, lends encouragement to the traditional faith in the curative value of drugs, and they are administered long after it is possible to expect beneficial results. It is so easy to temporize in these cases that every known method of medical procedure can be tried out, and surgery is usually invoked only as a last resort.

Formerly it was believed that gall-stones could be dissolved. The idea is now only a memory. Many of the drugs which were believed to be efficient in cholelithiasis have proved to be valueless. Diet, alkaline mineral waters, prosphate of soda, olive oil, salicylate of soda, yet retain a place in the medical armamentarium, as they sometimes seem to serve a useful purpose in relieving cholecystitis, but when it is produced by gall-stones, which can not be demonstrated, the result of the treatment at best is limited to bring-

ing about a period of latency, which means the patient is temporarily free from symptoms, but retains his gall-stones, with attending risks. Anodynes form a most important line of medical treatment. In instances where there are severe paroxysms of pain, anodynes are almost indispensable. But while they are sometimes a great boon to the patient, the result of their administration is only palliative. If gall-stones produced only pain a palliative treatment could be looked upon complacently if the patient did not elect to take a short cut to have it relieved, but the consequences of having an infected gall-bladder or one that is a host to calculi, are often serious and far reaching. As long as the stones or infection remain within the gall-bladder walls, the condition is quite simple, but there is nothing that will insure a status quo in the condition. Besides the various reflex symptoms referable to digestion which are present in many cases, every acute attack adds to the chances that a more serious lesion will be engrafted on the one the patient already has. In those instances where the acute attacks cease and there is a period of latency, it is recognized that serious pathological changes may be occurring. Moynihan⁴ says: "Whatever latency may be invoked in respect of the clinical declarations of gall-stones, there is certainly none attaching to their pathological manifestations. When patients are operated upon after undergoing one or more 'cures,' extending over several years, it is at once evident that though symptoms have been kept in subjection, insidious morbid changes have been steadily progressing, changes which may involve the gall-bladder, the liver, the duodenum, stomach, or pancreas; and of these the last is certainly not the least serious."

Within the last few months the author of this paper has seen two patients with carcinoma of the gall-bladder in whom the initial attacks of gall-stone colic had subsided, and for a period of ten and fifteen years respectively there was a period of apparent latency and little to indicate that the patients were seriously ill.

Up to the present time medical treatment for infections in the biliary tracts has not proven itself equal to the requirements. In those infections which have caused the formation of calculi it is too late to expect that they can be removed or rendered innocuous by any other method of treatment except surgery. If medicine is ever to achieve anything in these cases an early diagnosis must be made. Then with vaccines⁵ it is not too much to hope that something may be accomplished. It is extremely doubtful if any method of medical treatment that is known for infection in the gall-bladder can be regarded as being cur-

ative to any greater degree than medical treatment for appendicitis. That acute attacks of cholecystitis or cholelithiasis most frequently subside under some form of drug treatment is no more conclusive of its effectiveness than it is conclusive of the effectiveness of drug treatment in appendicitis when the symptoms subside under it. It is known that there are long periods of latency in cholelithiasis. Some competent observers believe that 80 per cent of all cases of cholelithiasis have a tendency to latency, which unfortunately does not mean that the patient is relieved of all the consequences incidental to having gall-stones, although the attack of pain may cease. Most cases of appendicitis subside under medical treatment for indefinite periods of time, and the result of medical treatment in appendicitis compares not unfavorably with that of cholecystitis and cholelithiasis when the full consequences of these infections are considered. Yet appendicitis is regarded as purely a surgical disease, while cholecystitis and cholelithiasis are too often regarded surgical only as a last resort.

There is a growing tendency to operate earlier in gall-bladder disease, but there is yet a wide divergence of opinion among surgeons, and a wider one between internists and surgeons, as to when surgical intervention is required in gall-bladder disease.

Moynihan⁶ advises that operation be performed as soon as a diagnosis can be made. Deaver⁷ believes that drainage of the gall-bladder is necessary in all cases of infection of the biliary passages; excepting those instances where the infection is very slight or has supervened in acute illness. Most surgeons are willing to operate after there have been repeated attacks of pain; when there is obstruction of the cystic duct, producing hydrops or empyema of the gall-bladder; when the common duct has become obstructed and the patient jaundiced and cholæmic; when the motility of the stomach and intestines is injured by adhesions; or when carcinoma or pancreatitis has supervened. In most of these instances the lesions have become a serious menace to life and an operation cannot be avoided if the patient is to be restored to health. Often under such conditions operation is not a simple affair and the patient many times is not able to withstand a difficult surgical procedure.

In appendicitis when the medical attendant fails to propose operation until after an abscess forms, or peritonitis or other serious complication has supervened, he justly has to encounter the criticism, not only of his medical confreres, but the public as well. It is sometimes excusable when the internist or surgeon permits his patient

to receive wrong, or at best palliative treatment, until a cholecystitis has resulted in gall-stones, as many times an infection which will produce gall-stones is insidious and not easily recognized, the early symptoms frequently being mild and later, when they are more pronounced, being referred in a most misleading way to some other part of the digestive tract; but it is indefensible and should invite criticism when gall-stones are knowingly permitted to be harbored in the gall-bladder until the initial lesion is lost sight of and inflammation, ulceration, adhesions, occlusion and obstruction of the ducts and other destructive pathological changes have become the indication for operation.

There are few practitioners of medicine who are not aware of the sequelae which may eventually occur following infection in the biliary tracts, yet often it seems that the seriousness of such infections is not given proper consideration, as far too many patients who are suffering from the effects of biliary infection are not offered the benefits of surgical treatment until so late that serious complications have occurred and safety for the patient is problematic.

A knowledge that acute and chronic infections in the gall-bladder may produce gall-stones and adhesions; that gall-stones may get into the cystic or common ducts, producing the obviously serious condition due to obstruction or ulceration; that gall-stones are a recognized frequent cause of pancreatitis; that carcinoma may result from long continued irritation produced by gall-stones; that adhesions occur in a large percentage of those cases that have been of long standing, and constricting bands often do much harm by causing pain and obstruction of ducts and hollow viscera; that any form of medical treatment known cannot prevent or cure any of the complications produced by the effect of gall-stones; that surgery is effective as a cure for the primary condition and a preventive of complications, should be sufficient to induce any practitioner to suggest surgical treatment to his patient for the relief of biliary infection or its later product, cholelithiasis.

In appendicitis we do a simple, safe operation early and avoid a late dangerous one. Why not take the same attitude toward infections in the biliary tracts? Why delay operation until one pathological event produces another which in its turn is more serious than the preceding one, until the patient's condition is one of extreme danger. It should be as much a matter of congratulation to operate on a cholecystitis before gall-stones are present as to operate in appendicitis

while the infection is still limited to the appendix.

In the majority of cases operation will not be performed until the primary infection has resulted in gall-stones. An operation at this time cannot be regarded as being early, as gall-stones are now known to be late products of infection. Yet if it were a surgical dictum that operation should be performed as early as gall-stones were diagnosed there would be a distinct gain in the saving of life and prevention of suffering.

According to Kehr⁸ choledochotomy has a mortality of 10.2 per cent; cholecystectomy a mortality of 3.7 per cent and cholecystotomy of 1½ per cent. In his complicated operation the mortality was as high as 45 per cent. Kehr's⁹ mortality in 167 uncomplicated gall-stone cases in 1910 and 1911 was 1.8 per cent. The Mayos¹⁰ furnish a smaller mortality and one which is lower than that possible for the average general surgeon. In 4,000 operations there was a mortality of 2.75 per cent. In cases in which there was active cholangitis with jaundice the mortality was 10 per cent, and when there was complete obstructive jaundice the mortality was about 25 per cent. In cases which were operated upon early and in which there were no complications, cholecystotomy should furnish a mortality of less than 1 per cent. When it is possible to do so it would seem wise to operate early and make cholecystotomy the operation of choice.

Until such time as the gall bladder becomes seriously diseased or the bile ducts become occluded, cholecystotomy will meet all the requirements of this class of cases, which is drainage and removal of gall-stones when present. It is obvious that when cholecystitis or cholelithiasis has existed long enough to permit the various serious pathological changes to occur that result from inflammation, irritation, obstruction or ulceration, that the more difficult operation will be required. Cholecystotomy should be performed sufficiently early that other more serious operations need not be considered.

Cholecystotomy is as simple as appendectomy and can be performed by the average country surgeon. The results of this operation are most satisfactory.

DISCUSSION

C. E. RUTH, Des Moines: I have been very much interested in this excellent paper, because it is a subject to which I have given considerable attention, and I was afraid from the title that the doctor was going to omit a very important consideration of it, which he did not, namely, that many physicians and surgeons are not ready to consider a case of infec-

tion in the biliary tract as being in any sense one that admits surgical consideration until the presence of gall stones is known to exist, and then not for a long period of time. I feel like saying—and I believe the essayist will indorse it, as indicated in the latter part of his paper—that the day for operating upon the gall tract and draining the gall-bladder simply for gall-stones has long since passed; that when it is known that we are dealing with a case of infection of the gall tract it is immediately a surgical case; and, as has been intimated by the essayist, a drainage of the gall-bladder in the early stages will meet all the conditions that exist then, and if properly handled will meet all the conditions that are likely to arise in the case, viz: that having opened up a gall-bladder and drained it, in which there are no stones, but in which infection exists, that gall-bladder should never be permitted to close until the infection has been controlled. That means that we should repeatedly examine for bacteria the drainage from that gall-bladder and determine when it is safe to permit it to close.

There is no class of surgical work that we are doing at the present time in which the practice of repeated operations equals in percentage those done upon the gall tract. Why? Because of failure to operate early in many of the cases; in others, errors in diagnosis of the condition; overlooking the presence of gall-stones; permitting the drainage to close too soon; and resulting complications from the operative procedure, which is often delayed until gall-stones have formed and possibly have gone into the cystic or into the common duct. It is a simple matter, as the essayist has said, to drain a gall-bladder, but it is not so simple a matter to remove a stone that is lodged in the common duct, particularly if it is low down. And I want to go further and say that there are but few men who are doing special work of that class at the present time. A mere tyro should not attempt it.

Another point. We are just waking up to the fact that we have a number of very grave infections of the gall-bladder. It is only within the last two or three years that I myself have been examining the drainage of the gall-bladder with any considerable degree of regularity, but in the last two years we have examined the drainage from all cases, with results that were surprising in some instances.

CHAS. J. ROWAN, Iowa City: I regard this paper as a very timely and valuable one, and while it may appear as radical to compare gall-stones to appendicitis in the necessity for operation, I believe in going further than the essayist did and saying that we should not wait for the establishment of a positive diagnosis of gall-stones; if we do, as a rule we wait for the complication. In most cases of gall-stones that we operate on, as a rule we cannot make a positive diagnosis at the time. We should do exploratory operations for gall-stones. I do not mean by that that every patient who possibly has gall-stones should receive an operation, but I mean that every patient who gives a history that resembles the

history of gall-stones, and even this also may be a very indefinite one, if after examination of the patient we are not able to exclude gall-stones, and if the symptoms persist after a short course of medical treatment, then we are entitled to make a diagnosis of gall-stones. Then is the time to operate, not after a severe infection or a carcinoma develops. It is easy to make a diagnosis of appendicitis; in a similar case it is often difficult to make a diagnosis of gall-stones. Another reason why we should be more anxious about the patient in a case of gall-stones than with appendicitis is that the average case of appendicitis, if left untreated, will not be followed by such bad results as the average case of gall-stones, in which, if left untreated, other complications ensue.

Another point in the diagnosis is one which I think we often overlook, and which is the very simplest thing in the world. Those of us who have operated on any considerable number of gall-stone cases must have remarked that often we see a patient coming for a gall-stone operation who has a scar and a history of a previous appendectomy. Now, that means, as a rule, that the gall-stones were present at the time of the appendicitis, but were not recognized. This occurs in two different ways. The surgeon in operating makes a probable diagnosis of appendicitis, opens the abdomen, makes the appendiceal incision, sees the lesion of the appendix, and is immediately satisfied that that has caused all the patient's symptoms. You all know it is a common thing not to carry the exploration any further. But if the doctor makes a diagnosis of appendicitis and finds a normal appendix, he goes ahead and examines the gall-bladder and other things that may have been at fault and may not have been recognized in his diagnosis; whereas the very fact that he does find a lesion of the appendix, instead of satisfying him, should lead him to go on and examine the gall-bladder, because we are learning that there is a more direct relationship between appendicitis and gall-stones. And if we come right down to it, we are prone to examine these patients as to their history of a preceding typhoid fever, and so on; whereas appendicitis has a great deal more to do with the causation of gall-stones than typhoid.

I want to make these two points: In the first place, provided we have been able to exclude everything else but gall-stones in the examination, and then make a probable diagnosis of gall-stones, we should operate immediately; and if we operate for another condition in the abdomen, especially an inflammatory one, we should never be satisfied without examining the gall-bladder and gall tracts.

W. L. BIERRING, Des Moines: I would just like to add one word in the emphasis of the relation between gall-stones and heart disease. We realize the deteriorating effect of a chronic infection upon the myocardium, but I doubt whether we fully appreciate the teachings of Dr. Babcock in emphasizing the menace of a cholecystitis upon a chronic valvular disease and the tendency to reproduce an in-

fection of the endocardium. I am glad to see that surgeons recognize it as their duty to see the greater evil of the two and remove the cholecystitis. I believe further it is being recognized that the giving of an anesthetic in chronic valvular disease is not attended with the danger it was formerly supposed to have. I feel very strongly that it is good advice to a patient with chronic valvular disease, who has an attending cholecystitis, to have this menace and infectious focus removed, because in time it will not only disturb the compensation of the heart, but may lead to very serious consequences.

CARL W. WAHRER, Fort Madison: Dr. Augustine's paper was a very fine and timely argument in favor of the early surgical treatment of gall-bladder disease. I think one could take a little exception to the inference drawn from the title alone. We must remember that appendicitis is strictly an emergency operation. Every case ought to be operated upon within a few hours after it is seen. They ought to be treated exactly the same as strangulated hernia, and I think most of them are nowadays. Of course that does not hold good in cholelithiasis or cholecystitis. If I understood Dr. Rowan correctly, he said the after effects in gall-bladder disease were worse than in untreated appendicitis; I disagree with that. The mortality is a great deal higher in untreated appendicitis than in untreated gall-bladder disease. Even today a great many more cases die of appendicitis than of gall-bladder disease. There isn't one case in a hundred of gall-bladder disease that is going to die within a few days if not operated. Most of us can afford to wait a little while if necessary. I don't think the patients ought to be allowed to make the rounds of pills, olive oil, and such things, but many of these cases could not be operated immediately after being seen, because the operation is contraindicated in an acute attack with jaundice. It is much better to put them on starvation diet and wait until they get through with it. Wait one month or even three months if necessary and put them in proper condition for the operation.

DR. W. E. SCOTT, Adel: I think the general practitioner is too apt to call cases in which there is pain in the epigastrium or region of the gall-bladder gall-stones, and that there are more times than necessary when we make the case submit to an operation. I have in mind a number of cases that were diagnosed as gall-stones ten or fifteen years ago that have entirely recovered without an operation, never have passed gall-stones, and are perfectly well today. I think we are more apt to confuse gall-stones with ulcer of the duodenum and stomach than any other disease, and they ought to recover just as well by putting to bed without the operation. I would like to impress this point upon the general practitioner: Do not call every case of pain in the epigastrium or in the region of the gall-bladder gall-stones.

I do not recall a single case which was sent back without operation after a diagnosis of gall-stones or

appendicitis had been made. I think the general practitioner too frequently makes a diagnosis of gall-stones and advises operation before he is positive that such exist.

I think the title of the paper is correct. "Cholelithiasis," as is appendicitis, should be operated as early as a diagnosis can be established," but be sure that you have established the diagnosis. I think that this matter should be emphasized, and that the general practitioner should not hastily send every patient with pains indicative of possibility of these things being present to the surgeon, because they will be operated upon, and may get well, and the ulcer cases will have a better chance for recovery after a number of weeks in bed without operation.

It is apparent that too many unnecessary operations are performed and too little time spent in diagnosis.

G. E. CRAWFORD, Cedar Rapids: I feel that I have a personal right to say a word on this subject, because I have had some personal experience. I agree with all the points in the paper, and even with the title, that it is proper and imperative to operate on cases of gall-bladder disease whenever a diagnosis is made; but I just wish to briefly illustrate by a little personal experience that it is not by any means always easy to make an early diagnosis of gall-stone disease. It is often an insidious disease, and when we have made a diagnosis and think we have a new case, we have a very old case and a very serious one.

I never had any serious illness in my life until I was sixty years old. Four years ago last New Year's Day I was operated on for gall-stones after one week's acute illness with empyema of the gall-bladder. I never had a symptom in my life that was suggestive of gall-stone disease, except frequent symptoms of intestinal colic, not serious enough to interfere with my business. I supposed up to the day that I took sick that I was the healthiest man in our town. I made boasts that I had not missed a meal of victuals for forty years. I had practiced medicine thirty-one years and never missed a call on account of sickness, which was a pretty good record as far as health was concerned. As a young man I was an athlete, and excelled the young men with whom I grew up in feats of strength and activity. I simply mention this as a point of health; and as I look back over all the history, in view of what was found at the time of the operation, there was not a single thing suggestive, but these mild attacks of intestinal colic. I remember as a boy of hovering over the kitchen stove with the bellyache in the evening; and throughout my whole life I was subject to these attacks of mild intestinal colic which I attributed to rapid and liberal eating. I don't believe there was a man in the world who would ever suggest the idea that I had gall-stones until I was taken sick the week before the operation; with an acute attack. On operation they found a greatly distended and thickened gall-bladder buried in dense adhesions so thick and organized they had to be

tied off, and filled with muco-pus and 91 gall-stones, polished and faceted as accurately as if they had been made after a definite pattern. When all this pathology was made under my waistband, is more than I can imagine.

DR. AUGUSTINE: I am sure I am very much pleased that there is somebody here who believes that the title of my paper fits the paper. That was a thing that disturbed me greatly, but I didn't see how to change it again.

I would not be very much disturbed by the fact that my patient might possibly have ulcer of the duodenum or ulcer of the stomach, because if I were mistaken and found that my patient did have ulcer, I know it is a surgical disease, and I would not do an injustice by operating.

I am in favor of examining the gall-bladder whenever the abdomen is opened, yet very frequently I think that through the ordinary laparotomy incision it is impossible to examine the gall-bladder and ducts sufficiently to know absolutely that there are no stones present, because sometimes when we have a good opportunity to see the gall-bladder we don't feel the small stones, and only discover them after it has been opened. In acute appendicitis—at least if it was very acute—I would hesitate to examine the gall-bladder or any other organ; but if the infection was not sufficient to endanger the patient, the gall-bladder ought to be examined at the same time. On the other hand, whenever you have operated for gall-stones or an infection of the gall-bladder, before the gall-bladder is opened it is a good plan to examine the appendix; and if you examine it, remove it, because in the large majority of instances there is disease of the appendix.

In speaking of the mortality, of course I don't know what impression I have made in the paper in regard to comparing appendicitis with gall-stones or infections of the gall-bladder, but it was not my intention to indicate that gall-stone operations should be performed with the same haste that would be used in appendicitis; and in some of the severe infections of the gall-tracts I think I should hesitate very much in operating right away, because such cases are not immediately dangerous as a general thing, and it is safer to operate a little later. The immediate mortality of appendicitis, as I have said in my paper, is much greater than in gall-bladder disease, but the terminal events in gall-bladder trouble are far more serious than in appendicitis.

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LABORATORY OBSERVATIONS*

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The results obtained from the clinical laboratory in any given case are to be regarded as symptoms, which, similar to those obtained at the bedside, vary in importance, but are always essential for the proper study of every case.

Fortunately most laboratory procedures of value to the clinician are technically simple. On the other hand certain ones are difficult and require a considerable experience to be properly performed. Among the latter are the complement fixation tests. Here the essential difficulty lies in the proper standardization of the reagents and the maintenance of this standardization.

The standardization is difficult because the chemistry of the processes is totally unknown and therefore rests upon an entirely empirical basis. Although the results obtained are of remarkable specificity this empiricism always presents the possibility of error and not infrequently the interpretative ability of the clinician is tested to the utmost.

The reagents common to all complement fixation reactions are an antigen, the blood serum of an animal suffering with the disease in question, red blood cells, a specific hemolysin and the blood serum of an animal which contains complement.

At the University Hospital the original Wassermann technic is employed for the complement fixation reactions as applied to syphilis and to gonorrhea.

The definitions of the different reagents are given below in tabular form.

1. Antigen.—This is an extract of the specific organism, except in the Wassermann reaction for syphilis where an extract of syphilitic liver is used.

2. Patient's serum.—The blood serum of the patient is heated to 56°C. for a half hour before being tested. Cerebrospinal fluid is also tested in the Wassermann reaction for syphilis.

3. Sheep's corpuscles.

4. Amboceptor.—This is the blood serum of a rabbit which has been immunized to the sheep's corpuscles by injections of the latter into the rabbit's blood stream.

5. Complement.—This is the blood serum of a guinea pig. The merits and the demerits of the large number of modifications of the original Wassermann technic will not be discussed. It is very questionable whether any modification differing in any of its essentials from the original is of advantage.¹ Certainly some of these give erroneous results.² A word of caution may be mentioned concerning the

so-called cholesterinized-antigens. Such antigens have gained rather wide use but their status is in no way established. The literature on the subject gives conflicting results.^{3 4 5 6 7} Experiences at the University Hospital⁸ have lead to the belief that much further work is necessary before such antigens can be accepted as of importance in diagnosis.

The Wassermann reaction for syphilis was based upon the combination of an amboceptor with its specific antigen and the resulting absorption of complement. While this explanation is true for the gonorrheal complement-fixation test it is now usually considered as erroneous when applied to the Wassermann reaction. It may be said that the essence of the Wasserman reaction is unknown. However, clinical experience has demonstrated its efficiency and a positive reaction in a case of syphilis is considered as unqualified evidence of the presence of active spirochaete in the patient's body. The test is, therefore, of great value as an aid in diagnosis, treatment, and to a less extent in prognosis.

The Wassermann reaction is not absolutely specific because positive reactions are occasionally obtained in other conditions than syphilis; (Scarlet Fever, Malaria, Carcinoma, Jaundice, rarely during the presence of a high pyrexia, and in some of the tropical diseases). At the University Hospital but two non-specific reactions have ever been obtained (a case of metastatic carcinoma and a case of typhoid fever with a temperature of 104°).

General rules aiding in the interpretation of the Wassermann reaction for syphilis are given below.

1. A strongly positive reaction is almost surely indicative of syphilis.
2. A positive reaction is strong evidence in favor of the diagnosis of syphilis.
3. A weakly positive or questionable reaction has no value in making a diagnosis.
4. Treatment should be administered actively until the positive Wassermann reaction disappears.
5. The reappearance of a positive Wassermann in a case under treatment is a positive indication for more active therapeusis.
6. The presence of two weakly positive reactions in a case under treatment is an indication for more active treatment.
7. Apparently cured cases should have the Wassermann reaction made once or twice a year for a life time; the reappearance of a positive reaction means active syphilis.

The gonococcic complement fixation test differs from the Wassermann reaction only in the kind of antigen used. This antigen consists of an extract of from ten to twenty strains of gonococci. The polyvalence of the antigen is a very essential element.

Up to the present a non-specific result has not been obtained and since the reaction involves an amboceptor and a specific antigen such a result is not to be expected, provided the reagents are properly standardized.

General rules aiding in the interpretation of the results of the gonorrheal complement fixation reaction are given below.

1. Gonorrhea limited to the anterior urethra or the vagina alone does not give the reaction.
2. A positive reaction is not to be expected before the sixth week of infection.
3. A positive reaction does not disappear until eight weeks after cure.
4. 50 per cent of cases of chronic posterior urethritis and of prostatitis react positively.
5. 90 per cent of acute and subacute cases of posterior urethritis cases react positively.
6. 66 per cent of stricture cases react positively.
7. 100 per cent of gonorrheal epididymitis and of arthritis cases react positively.
8. 13 per cent to 21 per cent of clinically cured cases react positively.
9. Eight weeks after cure the test should be made and if positive further treatment should be instituted.

The most useful examinations of the cerebrospinal fluid obtained by lumbar puncture are the cell count, the proteid content, the Wassermann reaction, and Lange's colloidal gold reaction.

The cells are counted with the slide that forms a part of every blood counting outfit (a Zappert or Turck ruling being the most convenient). Ten cells per cubic millimeter is considered to be the maximum normal limit.

Of the tests for proteid the Noguchi globulin reaction is the one most widely used in America. The following is the technic used at the University Hospital.

To 0.2 cc. of the cerebrospinal fluid add 0.5 cc. of 10 per cent butyric acid in 0.9 per cent salt solution, bring to boiling and add 0.2 cc. of 4 per cent sodium hydrate solution and again boil. A positive reaction occurs when a flocculent precipitate settles out in half an hour.

Lange's colloidal gold reaction depends upon the precipitation of a colloidal solution of gold by proteins present in the cerebrospinal fluid. Different kinds of proteins and different mixtures of proteins produce different degrees of precipitation. The reaction is simple in technic but because of the excessive purity of the reagents involved and the cleanliness of the glassware it requires more equipment and time than the average physician can afford and like the complement fixation tests had perhaps better be relegated to the clinical laboratory.

The reaction finds its greatest value in the diagnosis of paresis, being present in 90 per cent to 95 per cent of all such cases. (^{9, 10, 11, 12.}) It is not diagnostic of this disease because rarely it will occur in other conditions, but neurologists consider it as strong evidence in favor of paresis.

The cytology and proteid content of the cere-

brospinal fluid are of most importance in the diagnosis of the presence and type of meningeal affection. A pleocytosis of cells resembling lymphocytes is most often found in syphilitic or tuberculous meningitis. In these infections the fluid is as a rule clear. A characteristic feature of tuberculous meningitis is that a fine web-like fibrin clot forms throughout the fluid if allowed to stand undisturbed for several hours.

In other forms of meningitis the fluid is almost invariably purulent. The infecting organism can be demonstrated in smears made directly from the fluid or by bacteriological means.

Tumors affecting the meninges frequently give a large proteid increase in the cerebrospinal fluid and such fluids may be canary yellow in color.

Fractures of the base of the skull are almost invariably accompanied by a bloody cerebrospinal fluid.

The findings in the cerebrospinal fluid in syphilis of the central nervous system are given below.

	Wa. R.		Cells Increased per cmm.	Proteid Contents Increased
	Blood	Fluid	In the Fluid	In the Fluid
Tabes Dorsalis ..	68%	40%	90%	30%
93% show at least one of these changes.				
C. S. Lues.....	89%	33%	97%	50%
100% show at least one of these changes.				
Paresis	91%	75%	96%	87%
97% show at least one of these changes.				

It should be noted that frequently the blood may show a negative Wassermann reaction while the fluid will be positive.

I am frequently asked how to collect blood for a complement fixation test. Cleanse the arm at the bend of the elbow with soap and then with alcohol. Constrict the arm above the elbow with the hand or a towel. Then with a syringe or a number nineteen needle draw off five to ten cubic centimeters of blood, place into a clean, dry vial and send it to the laboratory without unnecessary delay.

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THE DEFENSIVE FERMENTS OF ABDERHALDEN*

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It is my idea in this paper to give as briefly and simply as may be the main facts concerning the phenomena that give rise to the so-called Abderhalden reaction. I shall present no new facts but will try to present the matter in its broader aspects and to show how it may be of service in diagnosis as well as an interesting new method in research.

The role of ferments in cell activity has long been recognized. In the unicellular organisms, whose study must form the basis of most investigations in cell physiology, we find that ferment action enables the cell to change the character of various substances in the surrounding medium so as to render them capable of assimilation by the cell or to render otherwise harmful substances innocuous. Juices expressed from masses of such cells are found to contain ferments, showing in general the same properties as those of the familiar digestive ferments, and often specifically related to the normal activity of the cell from which they are obtained as is the inverting ferment obtained from yeast cells.

These independently existing cells must each perform for itself all of the functions that in the higher forms of life are divided among various groups of cells working co-operatively for the common good. Under these conditions the cells of one tissue or organ become specialists in their particular functions retaining only such of the original powers as are necessary to life. Such a differentiated cell would be unable to exist under the crude conditions surrounding the amoeba. It must be surrounded by a suitable medium, providing it with necessary food material and oxygen, and capable of promptly removing waste material. And this medium must not be subject to any considerable change in its physical or chemical characters. The medium in which the cells of the body live is the lymph or tissue fluid and this must take its characters directly from the blood plasma. The fluids of the blood then, must contain no substances that are harmful to or out of harmony with the metabolism of any of the tissue cells. Such substances doubtless exist within the bodies of the various tissue cells, sub-

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stances which if liberated and carried to other tissues would prove detrimental. Such substances are harmful to or out of harmony with the blood plasma and to all the organs except that from which they come. Such substances passing into the blood may serve a useful purpose by acting as stimuli to the cells of other organs or providing them with the means of carrying on their own activities. To this class belong the so-called internal secretions.

In the exclusion from the blood of harmful substances the familiar ferments of the digestive tract play a prominent part, splitting complicated substances into their simpler components and thus depriving them of their specific characters. The cells of the intestine through which they must pass and those of the liver which are interposed before ingested material reaches the general circulation also act selectively and by altering the character of the food presented. The invasion of the body by foreign cells such as bacteria or tumor cells would naturally throw this elaborate defensive mechanism out of gear and we should expect to find in the circulating blood evidence of the presence of foreign proteid,—material out of harmony with the normal cells of the organism.

In order to ascertain the means by which the body deals with such substances, and to estimate the role played by ferments in the process, Abderhalden undertook a series of experiments directed toward the study of possible ferments in the circulating blood and the effect produced by the introduction into the circulation of foreign proteid.

His first result was to establish the fact that the plasma of healthy normally fed animals contains no proteolytic ferments. The methods used in the demonstration will be briefly touched later. Having established this he injected into the circulation of dogs various proteids or proteid derivatives. After an interval the sera of these animals was tested for the presence of proteolytic ferments. The very first experiments gave a positive result. A ferment was found capable of splitting the substance injected and not only that substance but all other members of the same general group, in other words a general proteolytic enzyme. There was no production of a specifically acting substance except to this extent, that the substance did not act on the proteids of the serum in which it was found. In other words it was specific for proteids out of harmony with the blood of that animal. The most various albumins and their derivatives show the same general results.

Now there are two known conditions in which

foreign proteid has access to the blood. These are pregnancy and Bence-Jones albuminuria. In the former, the foreign substance must be regarded as out of harmony with the fluids of the maternal blood though in harmony with the species. The sera from a series of pregnant women was tested with various proteid derivatives, among them with a preparation of pure placenta albumin. Theoretically this would correspond to the injected substances or substrates of the former experiments. A surprising result was obtained. Of the most various substances tested, only one was split, the placenta albumin. The experiment which has been repeated by many other workers and amply confirmed seems to prove the existence of a ferment in the blood of a prospective mother that is capable of peptonizing placenta albumin and only placenta albumin. Of course this should at once provide a ready and reliable test for the presence of pregnancy. The reaction appears within eight days after conception, and persists for two or three weeks after delivery.

This observation leads to the conception of specificity of cell proteid,—that each type of cell contains a distinctive albumin, differing from that of any other cell and that it is possible to produce an enzyme of such a nature as to attack this proteid and no other.

In the application of this discovery to general diagnosis preparations are made of the albumins from the various organs of the body and tested against the sera obtained from individuals suffering from divers pathological conditions. When a reaction is obtained with the albumin from a certain organ it seems fair to assume that that organ is the seat of trouble of some kind and that its specific albumin has been passing into the circulation, giving rise to the production of the corresponding ferment.

Briefly outlined some of the results already obtained are as follows: The sera of carcinoma cases gives a reaction with carcinoma albumin. This is claimed by some to be limited to cancer of the same organ while others find the reaction with cancer from any source. When this is settled one way or the other it should help to determine whether the cancer cell is a foreign cell or a modified tissue cell. If the reaction works parallel to that in pregnancy it should disappear two or three weeks after surgical removal of a tumor and may be of value as a criterion of cure.

Results with the thyroid are interesting. In simple goiter and in various forms of dysfunction of the thyroid without enlargement a reaction is obtained with normal thyroid. In Grave's disease however the serum seldom reacts with

normal thyroid but always with albumin from Grave's thyroids and usually with thymus and ovary as well. This may show that a cell may be so altered as to be unable to complete its normal metabolism and so passes into the circulation substances still marked with its specific characters, while in other cases the alteration is so profound as to change the character of the metabolism entirely.

In dementia præcox a reaction is obtained with testis or ovary, with brain cortex and often with thyroid. While an early diagnosis in this condition offers as yet no prospect of therapeutic relief, it may well be that a better knowledge of its etiology will lead us to something useful in the near future. Tumors of the brain, and degenerations and dysfunctions have been localized by means of the reaction, by taking for the test pieces of the various subdivisions of the gray matter. Pituitary trouble has also received early demonstration by this method. In sympathetic ophthalmia a reaction to the retinal proteid has been obtained.

In short the method appears to promise valuable results in almost every field of work and deserves the most careful consideration in spite of the fact that many workers have reported discordant results, as is always to be expected when a new method is put on trial.

An interesting variant of the reaction in pregnancy is to be found in cases of toxæmia of pregnancy and eclampsia. In these cases the serum peptonizes placenta albumin only with difficulty, and when serum from such a case is mixed with serum from a pregnant woman giving the usual reaction, peptones are produced, a result that justifies the conclusion that placenta albumin or some of its specific derivatives is present in the blood of the toxæmic case. It is too soon to conclude that these placental substances are the direct cause of the condition, but it does seem to be true that their presence and abundance bear a prognostic relation to the course of the disease. In these cases a reaction is also obtained with liver and in some cases at least with thyroid.

An interesting case bearing on the specificity of cell albumin is one of malignant chorionic epithelioma. The serum from this case failed to react with various cancer tissues, but did split placenta albumin. The substrate prepared from the tumor itself gave no reaction with the blood of a carcinoma patient which was positive with various other tumor preparations, but was digested by the blood of a normally pregnant woman.

A recent case in Chicago, clinically a uterine tumor of doubtful character, gave reactions to

carcinoma tissue, to uterus and to liver. The involvement of the liver was explained by the presence of metastases in that organ.

The technique of the test as usually applied is simple in principle but requires the greatest care and attention to detail as well as a full system of controls if the results are to be uniformly dependable. The preparation of the various albumins or substrates is a matter of considerable difficulty. The organs should be obtained, according to Abderhalden, from the body of a recently dead young adult, accidentally killed, who did not live long after injury, and who of course showed no signs of disease. The use of organs removed under anæsthesia is said to be unallowable. Such organs must be subjected to a thorough washing to remove all diffusible substances as well as all blood, then ground to a pulp and boiled. The coagulum is to be washed until free from peptone. Such preparations have the virtue of keeping well under proper conditions.

The blood of the patient under investigation should be taken in the fasting condition as the serum will then be nearly free from diffusible proteid derivatives. It is drawn from the arm vein by means of a needle and allowed to clot and the serum separate at the room temperature. This ensures the least possible degree of hæmolysis. Any red serum is useless as the lysis of red cells always liberates ferments. All formed elements of the blood should be removed with the centrifuge.

The serum thus obtained is placed in a small dialysing thimble with portions of the various substrates, covered with toluol to prevent evaporation and contamination, placed in the incubator for some hours, and then the outer fluid, distilled water in the first place, is tested for peptone by ninhydrin. The blue color given by this reagent in the presence of peptone indicates a positive result for that particular albumin. Each experiment should be carefully controlled by the use of serum without substrate, and in the case of a suspected pregnancy the use of a known positive and a known negative serum as well. When all precautions are observed and controls carried through the results should be reliable.

As outlined the test is one limited to a well equipped laboratory. The use of dried substrates has been suggested and advocated by some but has not been universally accepted. A recent suggestion however may serve to bring the reaction into the reach of the average well stocked office. This is the use of dyed substrates. For this method the boiled tissue albumin is treated with a saturated solution of carmine and then washed

until the wash water is no longer colored. Such colored material liberates its color if the proteid with which it is combined is digested. The reading should be made after not more than six hours, as after that there is likely to be some diffusion of color in negative cases. This method is exactly the same as the old test for pepsin in the stomach contents by means of colored fibrin.

It has been suggested that the homologous organs of lower animals might serve for the preparation of substrates. The advantages of this would be obviously great. It would appear to be practicable in the case of placenta at least and Abderhalden himself advocates the use of such organs together with those from a human source until the value of their use can be estimated.

As is the case whenever we come into possession of a new means of investigation a large number of questions arise to be answered and many new fields of investigation are opened up. One of the first of these in the present instance is the query as to the source of these ferments. The leucocytes, the red cells, the platelets, the cells of the intestine or liver all or any may prove to be responsible. The organ itself from which the offending material comes may also provide the ferment necessary for its destruction. We know that the expressed juices of organs usually contain ferments capable of splitting proteid derivatives from the same organ and as a rule only from that organ. The exception here is the kidney. If the destruction of a cell liberates both proteid and ferment it is to be expected that the ferment having exerted its splitting action on the proteid would remain for a greater or less time in the blood.

The study of the reciprocal relations of organs by removal of one and subsequent observations of the serum with regard to the others should prove valuable. So also with the effects of drugs and poisons.

The field of infectious diseases offers great opportunities. The reaction of the blood to albumins obtained from the invading organism, and to proteid from the organs attacked or indirectly affected should give much information as to the natural history of disease. The relations of these ferments to the so-called immune bodies, lysins, agglutinins, opsonins should be studied. Researches along all these lines are in progress in various laboratories and results will certainly be forthcoming.

In conclusion it may be said that the method has given us a certain means of diagnosis of the pregnant condition at a stage when its recognition is otherwise impossible. It has proved a valuable aid to diagnosis in the greatest variety

of other conditions and it would appear that its possibilities have only begun to be opened up. The use of animal rather than human substrates and the application of the method with dyes may very greatly widen the usefulness of the reaction.

HELIOOTHERAPY IN THE TREATMENT OF TUBERCULOSIS

J. W. KIME, M. D., Fort Dodge, Iowa

It will be remembered that in 1898 we called attention to the importance of sunlight in the treatment of tuberculosis.

In a number of papers published during the next few years upon this subject, and in a small pamphlet on "Light" which was issued for a number of months, we emphasized the importance of sunlight as an agency of much value in the treatment of this disease.

At that time, however, but little attention had been directed to this subject by the medical profession, and we were compelled to desist from further publication of the details of our work for the reason that unkind criticism was made and open charges of quackery and fakeism were asserted.

We have continued our work with light, however, and, in the meantime, others have taken it up and the time has now come when we again may assert ourselves without any chance for criticism.

It is now everywhere conceded that the most notable advance in the therapy of tuberculosis during the past two years has been in the recognition of the important place which sunlight holds in the treatment of this disease.

Just now the work of Rollier, of Leysin, Switzerland, is attracting the greatest attention.

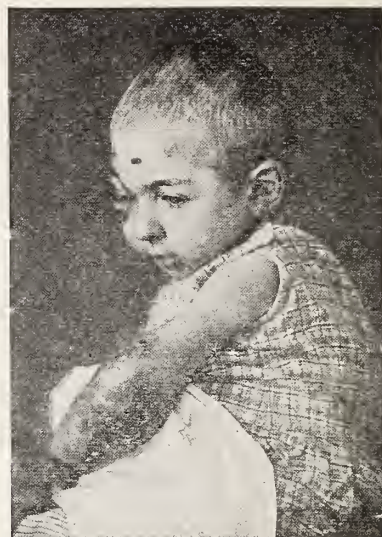
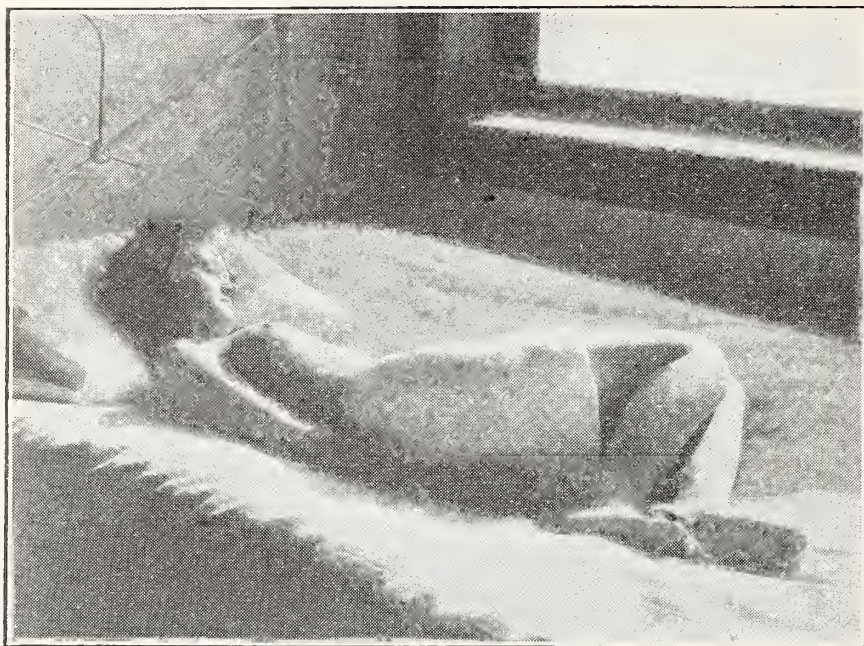
Rollier has established a sanatorium at Leysin and has now treated a large number of cases, particularly of tuberculosis among children suffering from the surgical forms of the disease, and with results that are nothing short of marvelous.

Rollier took the precaution, however, to go up into the mountains entirely by himself, with a few patients, and there worked out the details of treatment beyond all reach of critics and conservatives who believe in eternally standing pat.

Rollier's method consists simply in exposing his patients to the direct rays of sunlight for as many hours per day as appear to best be suited to each individual case.

He begins by first exposing the feet for a few minutes a number of times each day, then very gradually extending the area to be exposed until





the entire body is kept in the sunshine for a number of hours each day.

The successful carrying out of all the details of treatment as best to meet the requirements of



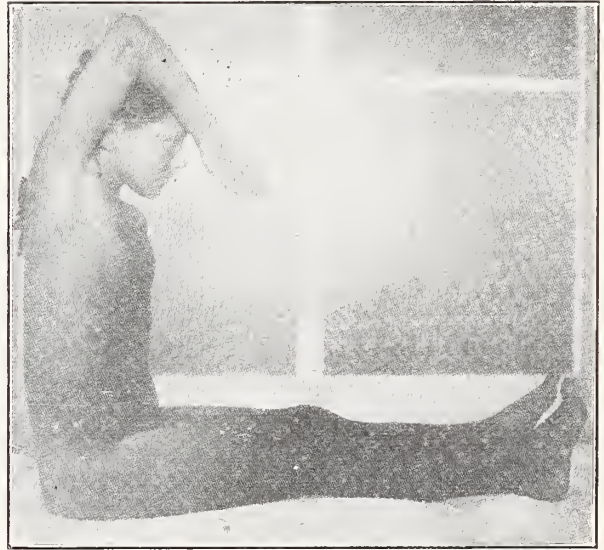
each individual case can be accomplished only under the careful supervision of dependable nurses.

In the treatment of surgical tuberculosis sunlight now very largely takes the place of oper-



ative measures. In those cases where operation still seems to offer the best prospect of cure, the light is used after the fifteenth day, over the site of operation as well as upon the entire surface of the body. Patients too weak to be removed from bed are wheeled directly into the sunlight and

to the sunlight. Our own writings, since 1898, have been full of references to the therapy of light. Our patients at Fort Dodge have, for fifteen years, been treated by lying full length in their rooms, with clothing removed, and exposed to the direct rays of the sun. Tuberculosis, both

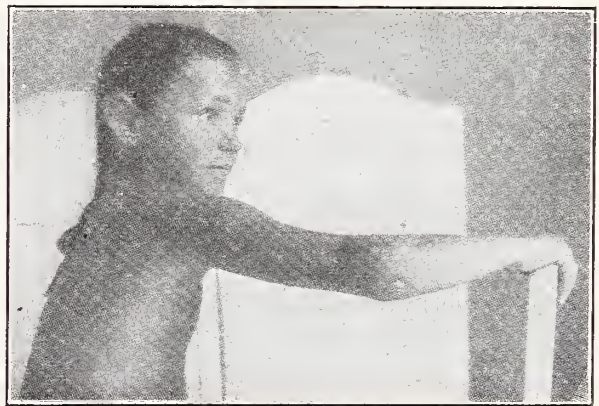
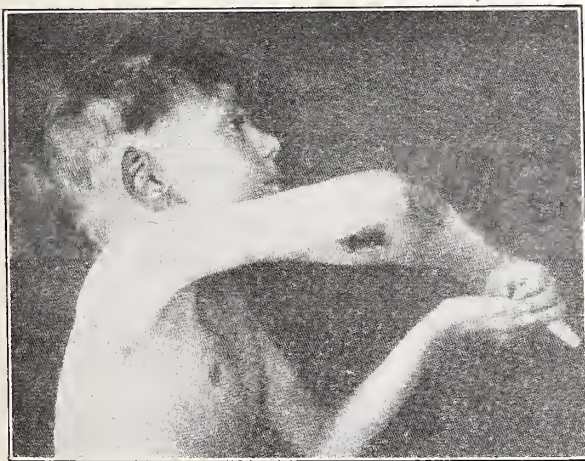


are thus exposed to its rays. They are carefully protected from cold and winds.

Cold abscesses are never opened but are aspirated if, after careful trying out, the sunlight alone is not sufficient to effect a cure.

in its medical and surgical forms, has thus been treated. Our cases of lupus, particularly, have been reported upon and are familiar to the profession of the state.

To Rollier, however, belongs the lasting credit



Many features of Rollier's work are not new. Indeed, sun baths are as old as the history of medicine. Herodotus writes of them in 484 B. C. The Indians of Central America used them before the Spanish Invasion. Recently, French surgeons, and the Swiss Surgeon Bernhard, have been exposing the affected parts of their patients

of perfecting a technic which produces results which surpass those of all other workers with light. Out of a total of 1,200 cases he is able to report 1,000 cures.

Rollier has perfected his methods to that extent which enables him to keep his patients in the open air and sunshine practically the entire day

and with perfect comfort to them. At first they are very gradually brought into the sunlight, 10 days or more being necessary to initiate the patient to the full course of treatment.

The most notable change which occurs early, when direct sunlight is used, is pigmentation of the skin and the prognosis in any case is favorable in proportion to the degree and rapidity with which pigmentation takes place.

Just what the light does, or rather how it does it, is not so clear. It is certain that there are pigmentation of the skin; hyperæmia of the parts exposed to the light; absorption of light energy into the blood; increase of metabolism; red cells increase 500,000 during the first three days and white cells increase 3,000.

At Fort Dodge we are now using the technic of Rollier on a considerable number of selected cases of pulmonary and surgical tuberculosis upon which we will later publish reports.

We have found that with the temperature 15 degrees below zero the patients are perfectly comfortable lying in their rooms with their bodies fully exposed to the sunshine.

Dec. 20, 1914.

SOME PROBLEMS IN OBSTETRICS*

J. C. POWERS, M. D., Hampton

It has been the privilege and pleasure of the writer to read before this Society and the State Society several papers on subjects pertaining to obstetrics. Criticisms and discussions have been rendered in regard to some of the thoughts promulgated; criticisms and discussions bring out new ideas, and make the writer of any paper think he knows something or nothing of the subject in hand.

It is not my object in this brief paper to present a scientific thesis, but rather to take up and present for your passing notice a few of the problems that confront every physician who practices obstetrics.

THE FINANCIAL PROBLEM

One of the problems that should have some consideration, is the financial end of obstetrical work. The cases today that demand the most time, usually night at that, the most responsibility, surgical cases not excepted, for every obstetrical case is a surgical case, that put more gray hairs in your head; that deprive you of rest; that interfere with your work or recreation; that keep you out of your office during office hours; that keep you from your meals, and that exhaust your nervous energy more than any other work you have to do, are the obstetrical cases, and you are paid the least for it.

There are men in plenty of communities today that are attending obstetrical cases in the country for \$10.00 with mileage not added and making a postpartum call gratis besides. The man who will drive ten miles in the country, remain three or four hours on a confinement case, assume the responsibility that he must assume when he accepts the call, go back the next day to make his after call and make a charge of only \$10.00, either hasn't much to do or else he doesn't value his time as much as the man who works as a common laborer at \$2.50 a day.

Many of the County Societies now have fee bills and I am pleased to note that recently the fees for this kind of work have been raised to some where near what they should be. Fifteen dollars for an ordinary confinement case is little enough, with mileage and after calls added. Some of the County fee bills show the obstetrical fee as \$25.00 with mileage and no gratis calls.

The cost of living has increased, the expense of doing country work has increased and every kind of labor is from 25 per cent to 50 per cent higher now than it was ten years ago. Why should not the physician get more pay for his labor at least in direct ratio to the advance of cost of living, not only obstetrical work but all work, surgical possibly excepted.

The meanest man in the profession today is the man who will drive eight or ten miles in the country, attend an obstetrical case, make a postpartum call and do it all for \$10.00 and insist that he might as well do that as be sitting around his office. Please understand that I appreciate the hardships that doctors' bills are to some families, and they must be taken care of, how, is best left to the charitable judgment of the attendant.

PITRUITIN

Pituitin is one of the new products that has come to stay. It is as necessary a part of an obstetrician's equipment as his forceps. It is a wonderful drug, and so far in my experience has proven the greatest boon to suffering women that it has been my experience to see. It, like all drugs, has its legitimate field and should not be used in any other. To the woman who puts in twenty-four to forty-eight hours in labor, with nagging, tedious, slow contractions, it is a blessing. It of course being understood that this drug should not be used unless the presentation be a normal one. The writer has used the drug in something over one hundred cases and has yet to see any bad results, except in one case. In this case the patient seemed very much depressed, pulse twenty beats a minute slower, skin leaky and bleached and some dyspnoea, without any effect of the drug upon the uterus. In some five

*Read before the Austin Flint-Cedar Valley Medical Association.

or six cases, the drug has had no effect whatever, either for good or bad. My experience has taught me too, that the ordinary prescribed dose of 1 cc. is not large enough, and that it should be doubled to get the best results.

In some four cases where I used two or three doses of pituitin, have gotten into trouble by a postpartum hemorrhage some two or three hours after delivery. Have seen nothing in literature bearing on this phase of pituitin use.

Since writing the above have had a similar experience and will give you a brief history of it, for the bad effects of new drugs is what we want. We know the good.

Patient twenty-three—primipara—Had been sick about eighteen hours. Pains regular but not strong. Position, right occiput posterior. Pains grew less and uterus became tired. Patient was given ether, very small amount, less than two ounces being used, and delivered by forceps, and third stage completed naturally. There was slight inertia of uterus and slight hemorrhage. 1cc. of pituitin was given subcutaneously to produce contractions instead of ergot. Patient was in a normal condition when the hypodermic was given. Within ten minutes the patient became very blanched, skin moist but not leaky, pulse rate about forty, strong and full you might say a hard pulse. There was considerable dyspnoea; patient complained of being short of breath and an "all gone" feeling. This condition lasted for nearly forty minutes. Symptoms gradually subsided and in about one hour from the time the pituitin was given, patient was normal. During this time the uterus stayed hard and no hemorrhage.

The patient above referred to and this one were very nauseated. The first had no anesthetic and the last one less than two ounces of ether. The condition was not due to hemorrhage in either case. In this last case, pituitin was probably not indicated, but I report the case, because of the unusual results. However Dr. Hans Herman Schmidt* first assistant of the obstetrical clinic of the University of Prague says—"Pituitin is the best and most reliable of all the preparations in use for the treatment of postpartum hemorrhage. It not only surpasses all ergot preparations as regards activity; but is superior to them in another respect: i. e. "It can be given, without danger, before the placenta is expelled. Furthermore, it is the only certain and safe ecobolic medicament that can be used to advantage in cases which the forceps or a dilator has heretofore been employed." He also says: "The only undesirable after-effects observed in some of the cases, (25 per cent) were after pains.

Case records are usually tedious and one case teaches nothing, but I wish to report to you one case in which pituitin saved me at least some nervous energy.

Mrs. J. D. aged thirty-four, mother of seven children. The last three confinements of this woman were a nightmare to me. I attended her in the last three, each of which was accompanied by postpartum hemorrhage of the most severe type. Her labors were always tedious, usually sick from thirty-six to forty-eight hours, pains irregular and with a uterine inertia that strychn. ergot or quinine seemed to effect but little. On entering the house, found the patient up and around having only a few irregular, ineffective pains. Patient informed me that I might as well make myself as comfortable as possible as we had the usual siege ahead of us.

Examination reveals os about half dilated. Gave her 2 cc. of pituitin and sat down to await developments. Things developed rapidly. In less than thirty minutes the labor was over, no inertia of the uterus, consequently no hemorrhage, and three hours subsequent to the delivery, morphin was necessary to relieve the after pains. She made a normal recovery, was doing her work in fourteen days, when her previous confinements meant about six weeks in bed.

This is only one of the many instances that might be cited. Pituitin is a great aid to the obstetrician and is one of the new things that has come to stay.

THE AFTER CARE OF THE OBSTETRICAL CASES

There is considerable controversy these days about how long our obstetrical cases should be kept in bed. Some of our German obstetricians go so far as to allow their patients to go to the bath room the second day and be on their feet after the third day. Some of our Americans say one week in bed is long enough. I think we have been prone to keep our patients flat on their back too long after delivery. I have never had the courage to let a patient out of bed the second day except when she is unable to void urine. In such cases I let the patient do almost anything to avoid the use of the catheter. Sitz baths, external irrigations and getting out of bed on a slop jar will often serve the purpose and leave the catheter unused. A catheter should be avoided like the plague and should not be used in obstetrical cases or any other cases when it can possibly be avoided. It is surprising how seldom a catheter needs to be used if a patient is allowed to get out of bed. I see no reason why an obstetrical case or many of our laparotomies should not be allowed to get out of bed to void urine. Of the two risks, the catheter is the greater of the two. I think the most of us have been too careless about the use of the catheter. I have heard these instructions given to nurses many times: "If the patient does not void in eight hours, use the catheter and catheterize every eight hours if necessary." (This applies both to obstetrical and surgical cases). The instructions

*(German Gynaecologisch Rundschau No. 15, 1911)

would be better given; "If the patient does not void in eighteen hours call me before using the catheter," and then it would be up to the attendant to suggest some of the many ways to avoid its use.

The obstetrical case should be allowed to sit up to eat her meals after the first day and be allowed to sit in a chair while her bed is being made after the third day. When she should be allowed to walk, depends more on conditions than on the exact number of days after delivery. It seems to me that the quantity and quality of the lochia and the involution of the uterus should be the determining factors as to when these patients should be allowed to be on their feet. Certainly a patient should not be allowed up on the tenth day or any other day if the uterus is subinvolved and the lochia still has a bright red color.

How often you see these patients get up on the ninth or tenth day and come to you complaining of backache some two or three weeks later, and with the red lochia still persistent, these patients got up too soon. On the other hand I see no reason for keeping some of these patients in bed after the fifth or sixth day if involution is complete and the color has disappeared from the lochia. There should be no certain day these patients should get up. Conditions should determine when.

The Germans in their hospitals are able to do things with the class of patients with which they have to deal, that we cannot do with ours. Certainly the trend of after-care treatment in obstetrical cases is to get them up earlier, give them more liberty, and as a result the convalescence is rapid and their strength and general health not impaired by the ordeal of labor.

PLACENTA PREVIA

Considerable discussion has appeared recently in regard to the treatment of placenta previa. Placenta previa was recognized as early as 1609 and described by Guilleman as an accidental prolapse of the placenta, he not recognizing at that time the true pathological condition. Later in 1685, Portal described it more correctly, but it was not until the time of Schuller in 1709 that the condition was thoroughly understood and described. He at that time demonstrated the condition by dissecting the body of a woman who had died of placenta previa hemorrhage before the placenta was delivered. Rigby describes the condition as the attachment of the placenta to that part of the womb which always dilates as labor advances, and the definition still holds good. Rigby gave to it the term "unavoidable hemorrhage" as opposed to any other hemorrhage

that might occur, such as pretaure detached placenta, etc.

The frequency of placenta previa varies greatly in different experiences. Hirst gives the frequency as about one to twelve hundred cases. In my own experience, the cases have been much more frequent, having had ten cases in about fourteen hundred confinements, and my mortality rate has been higher than the text book mortality rates, having lost five of the ten cases treated. Prof. Nagel of Berlin, Germany has an exhaustive paper on this subject in the July number of *Surgery, Gynecology and Obstetrics*. He gives the mortality rate in these cases, taken from the experiences of such men as Schroeder, Behm, Gusserow, Zweifel and others as from five to ten per cent, no matter what method is used in delivering the woman.

Of course the infant mortality rate is very high, ranging from fifty to ninety per cent. The high mortality rate is due probably not so much to any method of treatment as to the condition of the children. Most of these children are immaturely developed, premature, and lowered vitality due to the disturbances of fetal circulation during labor. The separation of the placenta causing the death of the child many times before delivery is possible.

The question of the proper treatment of these cases must come home to every individual practicing obstetrics and with my experience, limited though it is, they are the cases that demand prompt intervention skilled assistants, and heroic treatment.

It seems to me that the treatment resolves itself into two methods, namely Cæsarean Section and Braxton Hicks method. There is no question that in a certain number of these cases, Cæsarean Section is the choice of treatment. In primipara, early diagnosis, a living child and hospital advantages or at least good aseptic conditions, Cæsarean Section might be the operation of selection. Three of my cases were primipara and all three died. I think now that these were cases for Cæsarean Section, and feel that had section been done these cases might have been alive today. In the last case, Cæsarean Section was considered and put up to the family, but consent was not obtained and Braxton Hicks method employed. The patient died from shock and not from hemorrhage. Doderlein gives the following contra-indications for Cæsarean Section in these cases:

1. Infection from the patient herself.
2. Fever.
3. Examinations made by physicians and midwives before patient is taken to a hospital.

4. Tamponade.
5. Extensive hemorrhage.
6. Marginal insertion of placenta.
7. In cases where fetus is either dead or not viable.

If these cases of contra-indication are taken carefully into account, the number of cases for Cæsarean Section are very limited.

Some of our best obstetricians have gone so far as to say that all cases of placenta previa should be taken to a hospital and treated preferably by Cæsarean Section. This would be an absolutely impossible thing to do probably in a large majority of cases, because most of these cases are in the country and hospital advantages out of the question. In selected cases then the problem would be whether or not to operate in a private house with all its disadvantages or practice the Braxton Hicks method.

It seems to me that the Braxton Hicks method of treating these cases is the best adapted for a vast majority of patients because the method of treatment can be best carried out at the average home.

I think in this connection that tampons either uterine or vaginal; Barnes or Keiller rubber bag are to be mentioned only to be condemned. The danger from infection and concealed hemorrhage is too great; and the benefit derived from their use too little to warrant their use. Too many of these cases show only continued hemorrhage as soon as the tampon or bag is removed, the blood having been damned at the cervix and escaping into the body of the uterus.

Again, these cases are much more susceptible to infection than ordinary cases, due to the lowered vitality of the patient from loss of blood. Hence it stands to reason that the obstetrician should be exceedingly careful about his aseptic technique. The rubber glove in these cases is a necessary part of the armamentarium as well as in all obstetrical cases, and the obstetrician who does not use them is not fulfilling his duty in aseptic technique. In none of these cases should asepsis be lost sight of. Haste does not excuse the accoucheur. What the good to deliver the patient and have her die of sepsis later. A safe axiom in these cases would be "never be in too big a hurry to be clean."

It is not necessary to go into detail as to the Braxton Hicks method of delivery.

In brief, as soon as the diagnosis is made, these patients should be delivered. Procrastination is dangerous. Prepare the patient, under ether, dilate enough to do podalic version, and as soon as one or both feet are delivered, then stop anesthetic and deliver as in any other breech.

The ordinary precautions must be exercised as in all breech cases. The hemorrhage will usually stop or be insignificant. I think the tendency then is to be in too great a hurry. If the patient is not bleeding, time is not an important item, but all cases of placenta previa are bad cases, need attention, the obstetrician good assistants and plenty of courage.

AN IDEAL MILITARY HOSPITAL

The following note we take from the Canadian Medical Association Journal for February. The patriotic sentiment which appears to exist universally in British America for the Mother Country is refreshing at a time when we began to wonder if the dollar was the only standard of measurement. We are, however, reminded on every hand that the Germans and French would not be behind if the opportunity was afforded.

An offer, which was apparently unprecedented, was made to the authorities some three months ago by the Medical Faculty of McGill to supply the entire personnel of a general hospital on the lines of communication. The officers were all to be members of the teaching staff and able to speak both French and German, the nurses to be chosen from among the graduates of the Montreal General and Royal Victoria Hospitals, and to have a practical knowledge of French, while as many medical students as required would be available as dressers. Needless to say, this patriotic offer was accepted at Ottawa and also by the War Office, and word came to proceed with the organization so as to be ready to leave in the Spring.

The most embarrassing feature of this movement has been to select without offense from the large number of applicants for position as nurses and positions as dressers.

BRITISH HOSPITALS FOR THE BALKANS

A hospital unit for Serbia is also leaving London under the superintendence of Mr. James Berry, senior surgeon to the Royal Free Hospital. The unit has the direct authority of the Serbian Government, and the British Admiralty has consented to transport it free of cost. A full medical and surgical outfit will be carried, while clothing and other comforts for the people of Serbia will also be taken, so far as funds permit. The medical staff consists of Mr. James Berry, senior surgeon and medical superintendent; Mr. Lawrence E. Panting, surgeon; Mrs. F. May Dickinson Berry, physician and anesthesiologist; Dr. Ernest V. Williams, radiographer; Dr. Dorothy Chick, house surgeon; and Miss K. M. Parkinson, dresser; together with eight nurses under Miss Irvine-Robertson, five lady orderlies, four orderlies, and a cook.

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STATE BOARD OF HEALTH LEGISLATION

What a State Health Service should be is not easy to determine. That our health service is very much inferior to the more advanced countries of Europe is well known. It seems the American people have a wonderful faculty of trying over and over the methods discarded by other countries; probably after a long period of years and at the cost of much money and many lives, we may reach present health conditions in Germany, France, and Japan. It is curious to one not familiar with American methods, to notice how little regard is given to expert opinion on any legislative matter however important or technical. This may be due in part to the fact that it is not quite known who is an expert. A man who is a graduate of a recognized medical college, is assumed to know as much about health matters as any one—and if he can control a township convention, a good deal more.

It may fairly be assumed that a state health service should be divided into two parts, one educational and one executive, and that they should be distinctly separate, otherwise there will be friction and trouble because their functions are so different. There should be a health service at the University for educational purposes, which should rise to the dignity of department. A well defined course should be prescribed for medical students, and a course which should be an "optional" to students in other departments under proper conditions.

We shall not undertake to say just how an

educational health service should be conducted at the University. There should be no difficulty in securing sufficient data. For instance, the University of Michigan has a health service that might be profitably studied.

It has been intimated that in Iowa the University should take charge of the entire health service of the state. Presumably a proposition of this kind would be made in the interest of economy and efficiency. It would serve neither the one or the other for reasons we need not go into. It would bring to the University an unlimited amount of trouble and grief which it could not well bear, at the present time, at least.

The executive functions of a health service should be directly under the control of the state at the State Capitol where proper laboratories should be located under the control of the executive board, with absolute powers to enforce all health laws. How the state health service should be organized we shall not undertake to say, but so far as we can see, the present health law is a good one, and the personnel of the board satisfactory. If it should be the function of the University Health Service to enforce the state health laws, an amount of trouble and confusion would arise that would need an extra session of the Legislature to straighten out.

We can hardly conceive of the University wanting to assume the function of enforcing state laws.

THE WATERLOO MEETING OF THE IOWA STATE MEDICAL SOCIETY

As the annual meeting of the State Society draws near we begin to consider the new questions which may come before the house of delegates for solution. Of late years we have come to look upon the State Society in a different light from what we did ten or twenty years ago. The State Society must now be looked upon as the business organization of the profession of the state. The time has entirely passed when the members of the profession can stand individually before the pressure of the complications that are constantly arising in the medical profession and all that relates to it. Of course we recognize the fact that the primary object of the State Medical Society is to bring before the profession of the state the results of the latest thought and investigations in medical science. This marks the progress of medicine, but we must also realize that in order to prosper and flourish as a profession and as individual members of the profession, we must be united in the common purpose of furthering all that increases

"MEET US IN WATERLOO"

the influence and standing of the profession before the public. It is not enough to say that Dr. is a scientific practitioner of medicine, but we must be able to say of Dr. that he stands as a respected and influential member of the community in which he lives, whose voice will be heard in all that relates to public welfare and public health as well as in the social affairs of his set, and Dr. must be in a position to say that he is able to pay his financial obligations, and unless he is fortunate, he must pay out of his earnings from his profession. This does not involve any thought of trade unionism, but simply a community of interest which is so well recognized in all human affairs. As it appears to us, the weakest side of the profession is its organization. There is too much of a disposition for medical men to say "What is there in it for me?" without realizing the fact that he is but a unit in the profession of his community and state, and that these several units must be correlated for the best interests of all the profession. This way of looking at things cannot lessen the respect which the public has for us, but must increase it, because all other interests adopt this idea in one form or another.

We are not in any way disturbed by legislation which will permit classes of men to practice under certain district names without a special medical training. We have always had this class of men and always will have them, and the more we protest against them, the more they cry persecution, and the more they appeal to the sympathies and prejudices of the public. I am not convinced that the practice these men get, draw at all from the practice of men whose qualifications entitle them to a practice, and we are glad to say that the State Society is an organization that would never take any active part in legislation except insofar as it relates to the organization of public health boards and the imposing of more rigid standards upon candidates for the practice of medicine. The family physician relation of the public to the practitioner, has in large measure disappeared, and the change of doctors at every attack of sickness is not uncommon nor is it unexpected. In the days of the family physician the practice of medicine was influenced largely by sentiment. Sentiment has largely given place to results. These results may not be well judged of, but they are factors that influence public opinion in relation to the profession. It comes, therefore, that if the patient is not satisfied with the results of the doctor's treatment, he begins to inquire whether or not he may be entitled to damages of a pecuniary character, and if he concludes that he is entitled to them, he makes a claim either di-

rectly or through an attorney for a sum of money which will compensate him for what he imagines he has lost or what he has failed to get. The burden of protection against these demands, made especially by people who have but small consideration for the merits of the issue, has become so great that unless it is divided among all of the members of the Society, becomes ruinous to the few who are unfortunate. It is impossible by any calculation to determine who may be made the victim, and it frequently falls upon the person who is least prepared to bear this burden, or it may fall upon the one who has by prudent foresight accumulated something for the care of himself and his family in his old age.

Our observations covering more than 100 cases of malpractice, shows that $\frac{4}{5}$ of the claims are against men engaged in general practice who have as yet gained but little or no reputation as surgeons. For the purposes of defense against unjust claims, commercial companies have organized, placing the fee for protection at \$15.00 a year for each member. Mutual organizations have been formed among medical men themselves, contributing a fee of not less than \$10.00 per annum for this purpose. The State Society has carried on this work for seven years, part of the time for an assessment of \$1.00, and as the cases increased, on an assessment of \$2.00, and we are convinced from the increasing number of malpractice cases, that an assessment of \$3.00 a year for this purpose will not be too much. We can assure the profession, from a large experience, that there is no sentiment whatever about a malpractice suit. It means cold-blooded business, nor should there be any sentiment about the question of providing for a protection, and the assessment of \$3.00 is looked upon in the same light as a cold-blooded business proposition of surrounding the medical practitioner with such safeguards as will enable him to carry on his business with a small profit at least. As a further argument in this direction we shall offer an analysis of the suits for malpractice that have up to this time been adjusted.

One matter of great importance to the profession is the maintenance of a medical journal, which shall represent the highest ideals of the profession of the state. It goes without saying that the original matter of the state journal must be of the kind which the profession of the state can furnish, and we desire to impress upon our members the fact that if the contributions fall short of what they think they should be, they should see to it that more careful preparation of papers be made. It is very gratifying to me to be able to say that we are receiving very respect-

ful consideration from the profession outside the state, and that we have been able to secure some very excellent contributions that may be regarded as contributions to medical science. The particular thing that causes us the greatest anxiety is furnishing sufficient space for the early publication of all the papers that come to us that are worthy of publication. The only means by which this increased space can be secured is through our advertising returns or by an increase in the dues for this particular purpose. People who advertise, do not do so for the purpose of supporting our journal, but for the purpose of finding a market for their products, and it therefore falls to the profession of the state to make it apparent to advertising concerns—that can secure access to our columns—that it is worth their while to do so. If the members of the Society would on all proper occasions, make it clear to those who have something to sell to the profession, that the suggestion comes from someone who reads the journal, and that the purchasers would give preference to our advertising patrons in all that relates to the particular thing advertised. We have many institutions in the State of Iowa that would, no doubt, be willing to carry advertisements if the doctors would use their individual influence in pointing out to them the advantage that would accrue by buying space in the journal. It must be apparent to the members of the Iowa State Medical Society that we have few large cities that are engaged in industries that particularly relate to the medical profession, and that we are not as favorably situated as the journals in states that have large cities and institutions that are furnishing supplies of one kind and another to the medical profession. So many general business houses apparently forget that doctors are purchasers of goods of all kinds, and that one of the best ways of reaching customers belonging to our profession is through the journal which presumably every doctor reads carefully, including the advertisements.

ELECTION OF PRESIDENT

At the 1914 session of the State Society, an amendment to the constitution was offered, changing the method of electing president. The question did not come to vote on account of the fact that sufficient notice had not been given, and therefore it was laid over until the 1915 session. The method of electing a president one year in advance of entering upon his duties, has been the method adopted by the A. M. A. almost since its reorganization, and this plan has been adopted by a considerable number of the state so-

cieties. The amendment is known as the "Rendleman" amendment to the constitution, and the section to be known as Article 8, Section 4, which reads as follows:

That at the election of officers at the session of 1914, there be elected a president who shall enter upon the duties of his office at once, and also a president-elect who shall enter upon the duties of the presidency one year later; thereafter, the president-elect shall enter upon the duties of the presidency one year from the date of his election.

FEE SPLITTING

In this number of the Journal we are publishing the Iowa Statute covering unethical medical practice. Among unethical medical practice covered by this Act, may be found classed criminal abortion and fee splitting, both amenable to criminal prosecution. If there are any practitioners in Iowa who are guilty of these unlawful methods, we sincerely hope they are not influencing legislation against chiropractors.

It would be inconsistent; it does not seem to us that it is worse for one class of practitioners to violate the law than for the other. In fact it appears to us it would be better to eliminate the fee splitters and let the chiropractors alone as the lesser evil.

THE WAR AND NERVOUS BREAKDOWN

The London Lancet of January 23rd gives an editorial to the subject of nervous troubles incident to the war, and calls attention to the fact that all forms of nerve instability will be accentuated, and that dormant weakness is sure to occur under the strain of long continued personal anxiety combined with the weakening influence of fatigue and perhaps economy of food. The loss of central control during an engagement does not persist in normal individuals. With the relief of the immediate strain of conflict the organism speedily regains its normal tone, and though there may be a fleeting return of excitement during the narration of experiences, no harm results so long as the individual is not haunted by the past both day and night. The London Lancet further states that neurologists say that they have been consulted by an increased number on account of so many nerve symptoms of an ill-defined character.

From the beginning of the war it was evident to army surgeons that one problem would be the judicious treatment of nervous symptoms. "Lord Knutsford, drawing conclusions from the condition of those reaching the London Hospital, appealed for funds to establish an institution for

the treatment of patients suffering from shock," and as a result of this appeal a special hospital was opened for officers, equipped for the reception of thirty-five patients. The War Office while restricting the hospital service to officers, are impressed with the possibility that something of a similar nature may be required for the treatment of the rank and file. The *Lancet* says in addition that "amongst the soldiers who have been through the harrassing time in the trenches there are certainly some whose condition seems to call for the utmost attention and patience. They are sleepless, or sleep in short snatches disturbed by frequent nightmares. They are dull and depressed, and unable to take interest in their surroundings. This dreary picture of apathy is said to be strongly suggestive of the usual premonitory symptoms of chronic mental degeneration, familiar to those who work "among the border line cases" which so often end in melancholia or in delusional forms of insanity. This condition which appears to be true of some officers, is comparatively rare among the men of the rank and file. The difference between the effect upon the officers and the privates is probably due to the fact that the officers suffer from a more continued strain of heavy responsibility. All observers favor the conclusion that among men it is rare to find that the apathetic condition persists or that it leads to more permanent mental changes.

The *Lancet* expresses the hope that the authorities will see their way clear to provide for the treatment of those affected by nervous depression without sending them to a hospital for the treatment of the insane.

SURGERY OF THE WAR

The *London Lancet* in the number for January 16, 1915, gives some interesting information in relation to the Surgery of the War.

The conditions of the present war are quite unprecedented. Not only is the number of our men actually fighting at one time greater than it has ever been before, but there is a correspondingly large proportion of the medical men of the country engaged in attending upon the wounded. Again, the fields of battle are many of them so close that an effort can be made to send the wounded back to this country quickly. Yet even the nearest battlefield is so far off that such transport, involving, as it does, the placing the wounded on and removing them from ships, is fraught with both great difficulty and danger. In order to utilize as far as possible the services of medical practitioners at home there have been formed large general military hos-

pitals in the British Isles, and to these the wounded are being sent either directly or after a longer or shorter period of treatment in one of the base hospitals of France.

The same editorial calls attention to new facts in regard to the treatment of gunshot wounds to the bones of the extremities; that the experience of the past does not put in the hands of the surgeon information that can be used as the best treatment of gunshot injuries of the bones in war. This comes from the attitude of the profession in relation to conservatism on the subject of amputations. Formerly it was found that the results of primary amputations were much better than in secondary amputations; that the saving of limbs frequently useless as to function was at the expense of a high mortality, and that even at the present time the death rate would perhaps be lessened by primary amputation, yet the multitude of armless and legless men after the war demands a more conservative plan of treatment be employed in saving limbs. The great difficulty lies in the fact that on account of exposure of the wounded in the trenches and the length of time necessary to reach the base hospitals, the wounds become generally infected. Therefore the surgeon has the problem before him of saving what he can, and the question is, what shall he do? Shall he remove the fragments of bone or let them alone with the hope that they may be saved to the great advantage of the future usefulness of the limb? Shall the fragments be nailed, wired or plated? It is plainly the duty of the surgeon to save life and to save limb that will prove useful. Each disputed method has its advocates. Some would remove all the fragments from the infected wound. Some would leave them in place. Others would employ some method of direct bone fixation.

The general feeling of British surgeons is to carefully observe and record results for the nearest future, at the same time exercising the best individual trained judgment in the absence of definite experience under present conditions to save limb and not expose the soldier to too great a risk of losing his life. It is apparent that at the close of this great war all that has been written on gunshot injuries of the long bones will have to be re-written. It is the hope and ambition of the English surgeon that when this war is over that the countryside will not be dotted over with one-armed and one-legged defenders of their country too often compelled to look to charity for their subsistence. What can the surgeon do to avert this sad and discreditable spectacle?

BOOK REVIEWS

DIAGNOSTIC AND THERAPEUTIC TECHNIC

A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M. D., Clinical Professor of Surgery, New York Polyclinic. Second Edition. Thoroughly Revised. Octavo of 837 Pages With 860 Illustrations. W. B. Saunders Company, Philadelphia and London. Price, \$5.00 Net, Half Morocco \$6.50 Net.

This is not a book on surgery but a very practical work on diagnosis and treatment, not drug treatment, but the technic of methods of diagnosis and the applying of definite means of cure or relief. Nothing theoretical or speculative finds place in this volume; nothing new is claimed, only a clear description of technic fully illustrated.

The first two chapters are devoted to general and local anesthesia. Considerable space is given to the preparation of the patient for anesthesia and a careful physical examination as a routine preliminary to general anesthesia. The author truthfully says that under a general anesthetic the patient is brought to the "border-line between life and death," and is therefore entitled to a most careful consideration as to choice and method of administration.

The value of sphygmomanometry in diagnosis is recognized and a complete technic described. The technic of transfusion, infusion and hypodermoclysis is well illustrated. Some of the older and less used means of treatment that were very popular a generation ago and not without a definite value today—such as leeching, cupping, general blood-letting and scarifying are described. The technic of proper hypodermic and intra-muscular injection of drugs, vaccination, antitoxins, etc., which everybody knows all about, but only a few know how to use properly, is carefully described and illustrated. The treatment of neuralgia by injection is helpfully described. Then comes Biers "hyperemic treatment" and the diagnosis and treatment of fistulous tracts by bismuth paste. It is well known that the results depend largely on the accuracy of the technic of application.

The collection and preservation of pathological material for laboratory diagnosis is recognized as of the first importance, and the physician who ignores laboratory helps today is entitled to but little consideration either by the profession or the public. The technic set forth in chapters 10 and 11 is of especial value to the practitioner who does his own laboratory examinations.

The technic of aspiration of the chest, pericardium and for ascites receives fair consideration. The technic of nose and accessory sinuses, ear, larynx and trachea examinations and treatment are complicated, and the general practitioner who is often of necessity called upon to manage these cases, will find the several chapters devoted to these subjects of very great value; indeed it will be difficult to find a book more suited to his purpose.

The technic of stomach examinations, stomach

lavage of colon and rectum examinations of enemata and enteroclysis, nutrient enemata, as set forth in this book, is of the greatest value. Some of our most amusing hospital experiences have been in relation to enemata and enteroclysis. Only a few hospital nurses unless they have been properly trained—which is not generally the case—have any conception of a good technic.

The urethra and prostrate, the bladder ureters and the kidneys have a technic of the greatest importance and difficulty, and generally require the skill of a specialist, but a considerable number of cases will fall under the care of a general practitioner, both as to diagnosis and treatment, and he will find in the chapters devoted to these organs great help and comfort in managing this class of cases. The last chapter is devoted to the technic of examination and treatment of the female generative organs, which in a brief space covers the essential facts. This book possesses the merit of furnishing the general practitioner a vast amount of information on subjects he is more or less familiar with and gives him a technic that will vastly increase his confidence in the measures he will feel himself called upon to employ in the care of a great number of cases which will fall to him in his work.

DIFFERENTIAL DIAGNOSIS, VOLUME TWO

Presented Through an Analysis of 317 Cases, By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 709 Pages, 254 Illustrations. W. B. Saunders Company 1914. Philadelphia and London. Price, Cloth \$5.50, Half Morocco \$7.00.

This very interesting and useful book on diagnosis presents the subject in an unique way. This is the second volume and is a continuation of the plan of the first volume. It will be remembered that a group of 383 cases in which pain was the common symptom, were analyzed and associated with eleven other common symptoms and a diagnosis reached and compared, with the outcome; in the second volume 317 in which pain was the common symptom, and nineteen other symptoms selected, analyzed and illustrated diagnosis reached and compared with the outcome. The method employed is to analyze the subjective symptoms and associate them with the physical findings. Laboratory examinations and examinations by instruments of precision are employed. It will be seen that in the first volume a group presenting pain and eleven other symptoms are selected; in the second group pain and nineteen other symptoms are selected. The rigid analysis of these cases having apparently a close relation to each other bring one to a diagnosis, and the correctness of the diagnosis is checked by outcome.

This great work is for study, for daily study and reflection; it is a book for the logical study and practice of medicine; the student—it does not matter how long in medicine—will find by this analytic method how he arrived at a correct diagnosis in a

given case and why he failed in another. The loose method which many practitioners employ of looking up what certain symptoms mean or what symptoms ought to be present in a certain disease, will find no encouragement in these volumes. This is not the method employed.

This work on differential diagnosis is entitled to the unqualified endorsement of the medical profession.

DISEASES OF THE NOSE AND THROAT

A Text-Book of Diseases of the Nose and Throat. By D. Braden Kyle, A. M., M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fifth Edition, Thoroughly Revised and Enlarged. Octavo of 856 Pages With 272 Illustrations, 27 of Them in Colors. Philadelphia and London. W. B. Saunders Company, 1914. Cloth, \$4.50 Net. W. B. Saunders Company, Philadelphia and London.

This text-book should make a good book for the general practitioner. Almost every condition of the nose and throat is at least briefly mentioned. Especial attention has been given to the diagnosis and treatment of conditions of the nose and throat which accompany general diseases. Methods of treatment that are new but not definitely established have been avoided, and consequently the book, from a therapeutic standpoint, is a most excellent one. Probably the strongest point in the book is the exact statements made regarding the therapy of the various conditions.

The treatise on the diagnosis and treatment of speech defects is exceedingly valuable and contains information which every general practitioner should have at hand.

While the articles are brief and concise the book is a most excellent reference hand book for both general practitioners and those confining themselves to head specialities.

FEVER. ITS THERMOTAXIS AND METABOLISM

By Isaac Ott, A. M., M. D., Professor of Physiology Medico Chirurgical College, Philadelphia; Member of American Physiological Society; Ex-President of American Neurological Association; etc. Paul B. Hoeber, Medical Publisher, 67-69 East 59th St., New York.

This volume contains the subject of three lectures to medical students by the author whose studies on the subject have covered a period of forty-five years as a practitioner and as a physiologist. They are well worthy of publication as the subject is of the greatest importance in the practice of medicine.

The first lecture treats of thermotaxis or heat regulation, which is shown to depend upon four nerve centers; two basal thermogenic centers, the corpus-striatum and the tuber-cinereum; and two in-

hibitory cerebral centers, the cruciate and sylvian. The author claims priority in the discovery of these centers, and proof of their function, and adduces the results of both earlier and later physiologists as proving the action of these centers. He mentions minor thermogenic centers in the spinal cord and describes the thermoinhibitory centers before mentioned as discovered by Eulenberg and Landois and by the author. He considered that the tuber-cinereum contains centers, thermolytic, polypnoeic, vasomotor, and sudorific. He describes thermotaxic nerves, including thermogenic and thermolytic fibres running in the vagus and in the sympathetic nervous system.

The second lecture deals with thermolysis as carried on by the polypnoeic center in the tuber-cinereum, the vasomotor, and sudorific. He also mentions the effect on temperature of thyroid extract and pituitary extract of adrenalin and of morphine as well as the influence of emotions.

The third lecture describes at length the use of the calorimeter for measuring heat production in the human being, as well as heat loss and gaseous exchanges. The author concludes with a discussion of the metabolism in fevers, of proteins, carbo-hydrates, fats, water, acetone bodies, and acids, chlorides, and phosphates, concluding that in a continued fever there is no increased production of heat, but only a disarranged regulation of heat, and considers that a slight fever is beneficial in infections at least, as it indicates the resistance to invasions.

OBSTETRICS

By Jos. B. DeLee, M. D., Being Vol. VII of the Practical Medicine Series for 1914. Year Book Publishers. Chicago. \$1.25.

Dr. DeLee, in this volume, brings to us the literature on obstetrics for 1913, in a brief but comprehensive manner. Full references are given and the original communications may be easily consulted.

OBSTETRICAL NURSING

A Manual for Nurses and Students and Practitioners of Medicine. By Charles Sumner Bacon, Ph. B., M. D., Professor of Obstetrics, University of Illinois and the Chicago Polyclinic; Medical Director, Chicago Lying-In Hospital and Dispensary; Attending Obstetrician, University Chicago Polyclinic, Henrotin, German and Evangelical Deaconess Hospitals. 12mo, 355 Pages, 11-illustrated With 123 Engravings. Cloth, \$2.00 Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

A very practical, well arranged book, fully illustrated. The first chapter deals with the nurses duties; the second with anatomy, physiology, and embryology; the third with pregnancy; the fourth with labor; the fifth with the puerperium; and the sixth with the infant. The book should be in the hands of every nurse.

CANCER, ITS CAUSE AND TREATMENT

By L. Duncan Bulkley, A. M., M. D., of the New York Skin and Cancer Hospital, New York City. Published for \$1.50 by Paul B. Hoeber, 67-69 East 59th St., New York.

This little volume comprises several lectures as given by Dr. Bulkley to his classes, and embody experiences and results as obtained in thirty years of active practice.

The author goes deeply into the underlying causes of cancer, and by diet, habits, etc., attempts to prevent malignancy. It is well known that people who live on a nitrogen free diet are almost free from malignant diseases.

There is much food for study in this little book and we heartily recommend it to every physician.

THE TUBERCULOSIS NURSE, HER FUNCTIONS AND HER QUALIFICATIONS

By Ellen N. La Motte, R. N. Introduction by Dr. Louis Hamman. Published for \$1.50 by G. P. Putnam's Sons, 2, 4 and 6, W. 45th St., New York.

This book is just what the title states—a hand book for practical workers in the tuberculosis campaign. It goes into sufficient detail concerning record keeping, district organization, disinfection, physician's responsibility, relations of nurse and physician, care of home and members of family, relief giving, occupations, etc. A very well prepared and practical book.

LAWS OF THE THIRTY-FIFTH GENERAL ASSEMBLY—CHAPTER 214

Revocation of Physicians' Certificates

An act amending the law as it appears in section twenty-five hundred seventy-eight (2578) of the supplement to the code, 1907, relating to revocation of physicians' certificates and defining unprofessional conduct.

Section 1. Unprofessional Conduct Defined.—The law as it appears in Sec. 2578 of the supplement to the code, 1907, is hereby amended by adding thereto the following:

The words "gross unprofessional conduct" as used in this section are hereby declared to mean:

1. The procuring or aiding or abetting in procuring a criminal abortion.
2. The employment of what are popularly known as "cappers" or "steerers" in procuring practice.
3. The obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured.
4. A willful betrayal of the professional secret to the detriment of the patient.
5. Any advertisement of medical business in

which untruthful and improbable statements are made.

6. Any advertisement of any kind, of any medicine or means, whereby the monthly periods of women can be regulated or the menses be re-established if suppressed.

7. Conviction of any offense involving moral turpitude.

8. Willful neglect of a patient in a critical condition.

9. Accepting any fee for service as a witness in a case at law or equity other than such as is allowed by the court, or that the court is made cognizant of.

10. The splitting or division, or agreeing to split or divide, any fee or charge paid or to be paid on account of any operation performed or to be performed, upon any patient, with any other person for any service performed or agreed to be performed, or in any consideration of such other person accompanying, bringing or referring to him a patient for any treatment or operation, or on account of such other person assisting him in reference to such treatment or operation without the knowledge and consent of the patient or the person having the patient in charge or the patient's administrator or executor in the event of the patient's death.

11. Knowingly misstating the cause of a death in a death certificate, except where an exact statement would render the physician liable to suit for libel, or subject the decedent or his family to public odium.

Approved April 17, A. D., 1913.

WANTED—BACK ISSUES OF THE JOURNAL

Some of our members are asking for back numbers to complete their files. The office of publication would much appreciate a few copies of the December, 1914 and January, 1915 issues. If you do not care to preserve your copy of these issues, will you please mail them to the Journal of the Iowa State Medical Society, 203 Citizens Bank building, Des Moines.

March 23, 1915.

To The Editor of the
Journal of the Iowa State Medical Society.
Dear Sir:

I should like your readers to know that the Address in Medicine which appeared in your issue of November 15 was printed from stenographer's notes without revision. This accounts for numerous small errors and omissions. Even the title as printed, Remarks of Some Ordinary Headaches, is impossible. Most of the inaccuracies are not of major importance but I do wish to say that on Page 352 Dr. Gleason and Dr. Stoddard should be Dr. Bliss and Dr. Sluder.

Very sincerely yours,

HUGH T. PATRICK.

SOCIETY PROCEEDINGS

The regular meeting of the Polk County Medical Society was held at the Savery Hotel, Tuesday evening, March 30th. Following is the program:

"Hypopituitarism With Report of Case," Dr. D. J. Glomset.

"Emerods," Dr. Lewis Schooler. (See 1st Sam. V and VI.)

"Requirements of the Harrison Act Affecting Physicians," Hon. E. E. Fitzsimons, United States Commissioner, Des Moines, Iowa.

The following is a summary of Mr. Fitzsimons' talk.

Every physician furnishing, dispensing or prescribing drugs affected by the above act must register with the Collector of Internal Revenue of the District in which his business is located and pay the required special tax. This registration expires on the 30th day of June of each year and must be immediately renewed by filing a return of register and paying the yearly tax.

Each physician must secure order blanks from the Collector of Internal Revenue on which to order his supplies of the prohibited drugs. These blanks are to be used only for the purchase of the drugs and the purchaser must make a duplicate of the order and retain the duplicate for a period of two years.

All persons registering as above must make a complete and accurate inventory of his stock of prohibited drugs on hand March 1, 1915, and make affidavit as to the amount on or before March 5, 1915. This inventory and affidavit must be preserved in the possession of the maker.

If in the course of handling or shipment, containers holding the prohibited drugs should be broken and the drugs destroyed or wasted, an affidavit must be at once prepared setting forth the manner and amount of the loss. This affidavit should be preserved in the same manner as the inventory.

In dispensing the drugs the physician must keep an accurate record, showing the amount dispensed, the date, the name and address of the patient to whom the drugs are dispensed. The only drugs, of which no record of the dispensing need be kept, are those dispensed and administered by the physician **when away from his office** and given personally to the patient on whom he is in attendance, and even in this exception it seems desirable that the record of this dispensing be kept for by so doing the physician will be able to account, accurately, for all the drugs that come into his possession, and it seems certain that this is what the law desires to accomplish. Where a stock solution is made for use in the office in administering minute quantities of the drugs, the record should show the date of making the solution, the amount of drugs so used, and the date on which the solution is entirely exhausted. The amount of the inventory plus the amount indicated as purchased by the duplicate order blanks will always equal the amount which the records, thus

kept, show dispensed plus the balance of the drug on hand. It is essential that a record of all drugs dispensed and used in the office be kept as indicated in this paragraph, and a good bound record book for this purpose should be secured, as the record of any transaction may not be destroyed for a period of two years.

A prescription written by a physician must bear the name and address of the party securing the prescription; the exact amount of the drug to be secured, the date, the full name of the physician, his registry number, and office location. Great care should be taken in writing prescriptions as they are the protection of the druggist selling the drug, and also of the party receiving the same, for unless such party can show a legitimate prescription calling for the aforesaid drugs he is liable to prosecution for having the drugs in his possession. The physician should acquaint the druggist in his community with his signature and registry number, and as the registry number will probably change from year to year, the druggist should be notified of any such change.

Finally, recognize that the burden of determining who shall be able to obtain supplies of the drug is laid entirely upon the physician, study to know the spirit as well as the letter of the law, and strive to meet its every requirement.

The Iowa and Illinois Central District Medical Association at a special meeting held in the ball room of the Blackhawk Hotel in Davenport, on the evening of March 23 heard Dr. Albee discuss "The Inlay Bone Graft in the Treatment of Fractures." The society was fortunate in the opportunity to listen to the man whose work of the past few years has injected new life into efforts at the correction of bone pathology. About one hundred and twenty-five physicians and nurses heard the talk and were impressed by the remarkably complete series of lantern pictures with which Dr. Albee elucidates his technique and proves his end results.

Dr. Albee's idea is that grafts be cut and inlaid for obtaining bony union, in such fashion that each stratum of the bone to be corrected, periosteum, cortical bone, marrow, endosteum, may meet and approximate a like stratum of the graft introduced, the same principle upon which is based all grafting and budding of the vegetable world. He proves by radiogram that when this is accomplished not only does union occur but that the individual cells of both graft and bone are stimulated to overgrowth and callus formation with a result of strength equal to and usually exceeding that of the normal for the part.

By no means the least interesting part of the exposition is the history of evolution of the tools used in the perfection of technique. Starting with the chisel and mallet of bone surgery Dr. Albee advanced to power tools; the flexible cable proved too light for the heavy work and was discarded, search being continued until an electric motor was secured of a weight permitting its use in the hand. The motor

was fitted with circular saw, drills, and dowel pin cutters; dowel pins set into cleanly drilled beds being the holding power demanded by the coaptation technique. The saw became a twin circular saw, adjustable, which insures that always and quickly the graft taken will conform exactly to the gutter designed to be its bed. Difficulty in sterilization of the motor led to its being encased in tight, sectional, removable, metal case adaptable to boiling.

Dr. Albee applies his grafts to cases presenting non-union following fractures,—in which series he claims to date 100 per cent of perfect union and functional result,—to insure union following joint excision, and to manufacture a bony splint to produce ankylosis in Pott's disease; a sanguine feature being that tuberculous infection in no way impairs the union or efficiency of the graft. The grafts he covers with periosteum sutured by kangaroo tendon, decrying the use of metal even as sutures in any bone surgery. He believes the event of psoas abscess to be even an added indication for operative interference and reports one case of good result in which through necessity the graft was left uncovered in the presence of a tuberculous abscess. The plaster jacket in Pott's disease he considers both inefficient and harmful. He advises non-operative treatment of recent fractures whenever and wherever possible.

The Medical Society of the Missouri Valley held its twenty-seventh spring session at the Hotel Fontanelle, Omaha, Nebraska, Thursday and Friday, March 24th and 25th under the presidency of Dr. Granville N. Ryan, Des Moines. There was a large and enthusiastic attendance and the program was, as is always the case with this society, a very strong one. The new Fontanelle proved a delightful meeting place; the ball room in which the sessions were held was sufficiently large and the acoustics were good.

The Omaha-Douglass county physicians were well organized to make the visitors' stay pleasant, the committee on arrangements having done its work unusually well. By way of entertainment the Commercial Club, of Omaha, gave the members of the society a luncheon at the Commercial Club rooms at 12:30 Thursday and after the Thursday evening program a smoker was given by the Omaha-Douglass County Medical Society. Both the luncheon and smoker were delightful affairs and were thoroughly enjoyed by the visiting physicians. Of the papers read if special mention be given any it should be Dr. Frederick H. Albee's masterly presentation of "The Future of Bone Graft" (with lantern slides) and Dr. Chas. Spencer Williamson's new and interesting presentation of his "Experimental Study of Cardiac Overstrain."

Dr. Albee surely gave invaluable instruction in his subject while Dr. Williamson gave an exceedingly interesting report of his studies in cardiac overstrain showing by X-ray pictures that the normal heart does not dilate but on the contrary contracts to any strain within its power.

Of the absentees, universal regret was expressed that owing to the illness of his mother Dr. Robert H. Babcock was unable to be present.

Dr. G. N. Ryan presided in his usual genial and able manner and it was without doubt due to his pleasing personality that Des Moines was chosen for the fall meeting of the society.

PAN-AMERICAN CONGRESS

The Seventh Pan-American Congress will meet in San Francisco, June 17-21 inclusive. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of congress approved March 3, 1915.

The countries and colonies embraced in the congress are the Argentine Republic, Bolivia, Brazil, Canada, Columbia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatamala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uruguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the Congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The congress will meet in seven sections, viz. (1) Medicine; (2) Surgery; (3) Obstetrics and Gynecology; (4) Anatomy, Physiology, Pathology and Bacteriology; (5) Tropical Medicine and General Sanitation; (6) Laryngology, Rhinology and Otolaryngology; (7) Medical Literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership fee is \$5.00 and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the treasurer, Dr. Henry P. Newman, Timken building, San Diego, California.

The general railroad rate of one fare for the round trip, good for three months, made on account of the Panama-Pacific Exposition at San Francisco, and the California Exposition at San Diego is available for the Pan-American Medical Congress.

The Palacé Hotel will be headquarters.

The First Pan-American Medical Congress was most successfully held in the United States in 1893. Five intervening congresses have been held in Latin American countries. It now devolves upon the medical profession of the United States to make this, the seventh, the most successful in the series.

Charles A. L. Reed, president, Union Central building, Cincinnati; Ramon Guiteras, secretary general, 80 Madison Avenue, New York City; Harry M. Sherman, chairman committee of arrangements, 350 Post St., San Francisco; Philip Mills Jones, special committee on hotels, 135 Stockton St., San Francisco.

MEET US IN WATERLOO

Waterloo, the city in which the 1915 annual session of the Iowa State Medical Society is to meet May 12, 13 and 14 is situated on the banks of the picturesque Cedar River in Black Hawk county. It is on the main line of the Illinois Central, running between Chicago and Sioux City, Omaha and Minneapolis; also the Chicago, Great Western and the Chicago, Rock Island & Pacific railroads. In addition to this railway service the Waterloo, Cedar Falls & Northern electric line which runs from Waterloo to Cedar Rapids gives direct connection with the Northwestern and the Chicago, Milwaukee & St. Paul at the latter city so that it will be very easy for the doctors residing in any part of the state to get to the session.

Waterloo has a population of approximately 34,000 and is known all over the state for its wonderful growth, the national census showing a gain of over

112 per cent in the years between 1900 and 1910. Notwithstanding this rapid growth Waterloo has succeeded in keeping up with herself in all other improvements and today, with her fifty miles of clean asphalt paving, her three magnificent concrete arch bridges, her beautiful parks and general appearance of cleanliness she presents to all visitors a refreshing and unmistakable welcome.

Few people realize that in this city of Waterloo there are factories that turn out 22 per cent of the entire output of farm type gasoline engines made in the nation and that the largest cream separator factory in the world has its home in Waterloo. The largest mail order farm machinery house in the world is located in Waterloo. All of these factories are models of their kind and will be thrown open to the visiting delegates.

The city maintains its own bathing beach and bath house, golf grounds and athletic parks as well as almost three hundred acres of other parking.



The commercial bodies are co-operating with the committee in charge of entertainments for the visitors, and some surprises are promised along these lines. Special attention will also be given the ladies. An auto ride through the city and surrounding country will be given by the citizens thus permitting all who are not well acquainted with this little city to see its sights.

The hotel headquarters will be at the Russell-Lamson, Waterloo's new, one-half million dollar hotel. It is absolutely fire proof, contains 250 rooms, 150 equipped with bath and represents the latest ideas in modern hotel construction.

The Ellis hotel is a very comfortable, homelike place and will undoubtedly be patronized by a great many of the delegates. The Ellis was



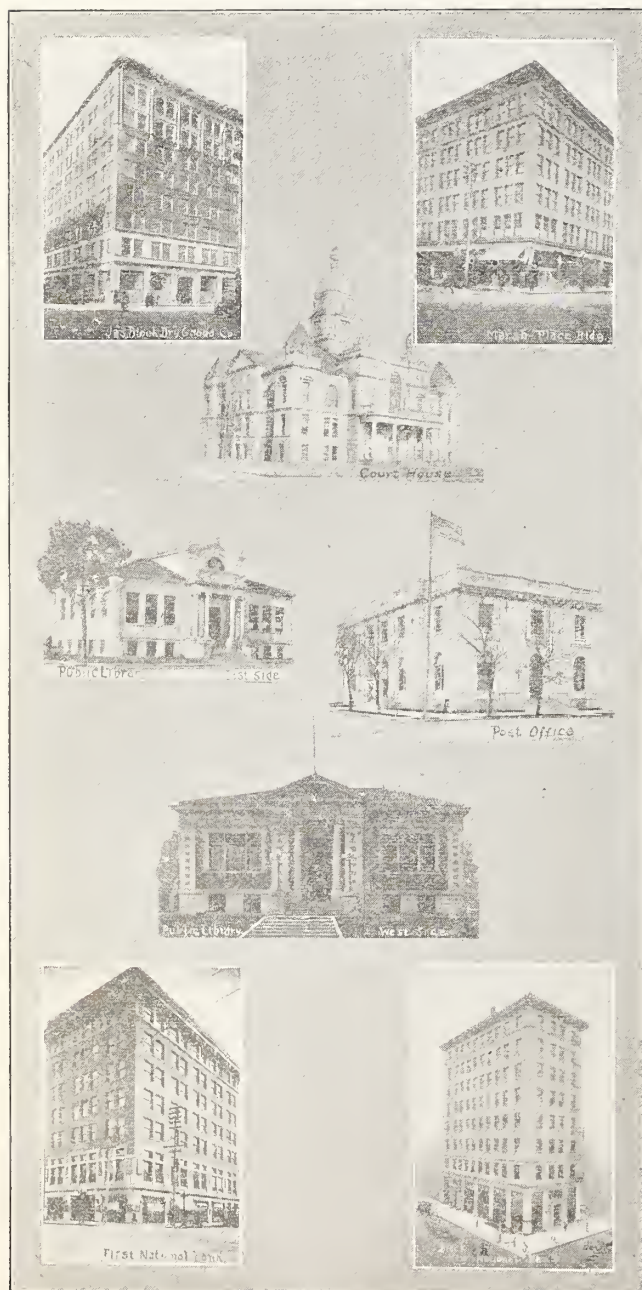
Grace M. E. Church—Meeting Place

Waterloo's leading hotel until the Russell-Lamson was built.

The other good hotels are the Irving, Martin, Elmer, Hummel and Metropole.

Meetings will be held in the Grace M. E. church which is located on the East Side of the river and is just a good healthy walk from the hotel headquarters. This church has a very fine auditorium and a number of private rooms where committee meetings can be held at the same time other meetings are in session.

The program at Waterloo will be a very strong one and Waterloo citizens have agreed to take



A Cross Street in Waterloo

care of your spare moments in the way of entertainments. There is no reason, therefore, why this session of the Iowa State Medical Society should not be the most successful of its career. "Meet us in Waterloo."

"MEET US IN WATERLOO"

The Blackhawk county and the Waterloo Medical Societies wish to extend a most cordial invitation to the medical profession of the state to attend the Iowa State Medical Society meeting in Waterloo, May 12th, 13th and 14th.

For many years Waterloo physicians have been embarrassed because they could not invite the State Society on account of hotel limitations. Our hotel accommodations are now more than adequate, and we look forward with great pleasure to your coming. We can care for twice as many as have ever attended a State Medical Society meeting.

A very attractive program has been provided by the program committee, and the entertainment committee of Waterloo physicians are giving no small amount of attention to plans for your comfort and entertainment. Our wives have organized and are also actively engaged in planning entertainment for the wives of the visiting physicians. There will be "doings" for the ladies all the time but especially on Thursday.

The Waterloo Commercial Club is enthusiastic in its co-operation with the local profession, and we are all united in extending to the members of the medical fraternity, and their wives a most urgent invitation to come and make this the best meeting in the history of the Society.

Address any inquiries regarding hotel accommodations to the Waterloo Medical Society.

"Meet us in Waterloo."

Fraternally,

Entertainment Committee.

PROGRAM STATE SOCIETY IOWA MEDICAL WOMEN

Meeting at the New Russell-Lamson Hotel, Waterloo, Iowa, Tuesday, May 11, 1915.

9:00 A. M. Business meeting; reports of officers; communications; reports of district chairmen; report of the extension work, by Dr. Florence Brown Sherbon; medical clinic, in charge of Drs. Grace F. Jerger and Jessie Hudson.

1:30 P. M. Address of welcome,

By Rev. Effie Jones-McCullon, D. D.
Response, by Dr. Clara Whitmore.
President's address.

Paper: Influence of Defective Vision on the Play Life of the Child, by Dr. Mary K. Heard.

Discussion led by Drs. Lillie Kin-
nien, Martha Welpton, Turana Dulin
and Nelle Noble.

Paper: The Menopause, by Drs. Laura Branson and Jessie B. Hudson.

Discussion led by Drs. Evalene Peo, Mary Killien, Julia M. Donahoe and Ida G. Rhoads.

Paper: Medical Women's Contribution to the Education of Mothers, by Dr. Margaret V. Clark.

Discussion led by Drs. Pauline Han-
son, Jennie Ghrist, Alice Stinson
and Adele R. Graenning.

Round Table: Anesthetics in Labor.
Drs. Grace F. Jerger, Clara Cronk,
Kate A. Hogle, Sophia H. Scott,
Agnes Eichelberger and Mary A.
Coveny.

Election of officers.

8:00 P. M. Reception by the Woman's Club of Waterloo.

THE SAN FRANCISCO SESSION AMERICAN MEDICAL ASSOCIATION

The meeting of the American Medical Association in San Francisco June 22 to 25th will be a memorable one on account of the extra arrangements and accommodations made for it, and the many other attractions, including the Panama Exposition which will make it one of the most interesting trips we have ever made to the national medical meeting.

The Palace Hotel, which will be headquarters for the American Medical meeting, has been made headquarters for the Iowa delegation, but to secure reservations, applications should be made early.

The different routes are southern, two central and northern, and the Iowa delegation will select one of the central, in order to shorten the trip going and will leave June 18th and arrive at San Francisco, Monday, June 21st at 11:00 A. M., and all those who anticipate making the trip, should write the undersigned for sleeper reservations and decide before purchasing transportation ticket, the differential itinerary desired for returning.

J. W. COKENOWER.

EXCESSIVE CURATIVE CLAIMS LEAD TO A JUDGMENT FOR MISBRANDING

Five packages of Moreau's Wine of Anise—labeled in part "Moreau's Wine of Anise Children's Soothing Wine. Each ounce containing one-third grain acetate morphine, 8 p. c. alcohol"—was seized at Boston, Massachusetts, on recommendation of the Secretary of Agriculture, March 16, 1914. The allegation was that the product was misbranded under the Food and Drugs Act and had been shipped from the State of New Hampshire into the State of Massachusetts.

The misbranding of the product was alleged on two major grounds; first, that the statements on the label regarding the curative and therapeutic effect of the drug and its ingredients were false and fraudu-

lent; and, second, that the following words on the label, "Moreau's Wine of Anise being compounded with a pure, wild wine, is preferable to any soothing remedy compounded with syrup" would lead the purchaser to believe that the product was a wine, whereas it was not a wine.

The charge that false and fraudulent statements as to the curative effect of the product had been made arose from the fact that the drug and the packages and labels with it contained a statement that the drug was a mild, sweet medicated wine, an excellent remedy for children in cases of diarrhea, dysentery, indigestion, and vomiting, which would lead the purchaser to believe that the drug was a remedy for said ailments, whereas the drug was not a remedy for said ailments.

On May 27, 1914, Louis J. Cote, claimant, Berlin, N. H., having filed a claim for the product and filed a satisfactory bond conditioned that the product should not be sold or disposed of contrary to the provisions of the Food and Drugs Act of June 30, 1906, as amended, or the laws of any state, territory, district or insular possession of the United States. The court entered judgment of condemnation, and the goods were delivered to the said claimant upon his payment of the cost of the proceedings.

U. S. Dept. Agriculture.

MARRIAGES

Dr. Clarence H. Hall, Cherokee, to Miss Lucille Payne, Lake Andes, South Dakota, March 18.

BIRTHS

Dr. and Mrs. C. O. Yenerich, Rockford, Iowa, March 6, a son.

Dr. and Mrs. C. W. Maplethorpe, Toledo, March 10, a daughter.

DEATHS

John C. Mueller, M. D., St. Louis College of Physicians and Surgeons, 1899; a practicing physician for several years at La Motte, died suddenly at his home from heart trouble, March 11, aged forty-eight.

John W. Fowler, M. D., University of Michigan, Department of Medicine and Surgery, 1884; a practitioner for several years in Dubuque, died in Milwaukee from an over dose of morphine, March 4, aged fifty-six.

Wm. Henry Shaw, M. D., University of Michigan, Department of Medicine and Surgery, 1858; a practicing physician for over half a century at Monroe, died at his home in that place from pneumonia March 21, aged seventy-five.

Smith W. Bellinger, M. D., University of Nebraska College of Medicine, 1904; member American Medical Association, Iowa State and Pottawattamie county and Missouri Valley Medical Societies, died at his home in Council Bluffs from nephritis follow-

ing a severe attack of la grippe March 15, aged thirty-nine.

CHANGES OF LOCATION

Dr. Jay S. Terrill, Blockton, has removed to Bedford.

Dr. L. C. Doris, Finchford, has removed to Janesville.

Dr. H. F. Keables, of Pella, has removed to Newton.

Dr. C. A. Mackey, of Milan, recently removed to Centerville.

Dr. C. G. Baird has removed from Mt. Vernon to Cedar Rapids.

Dr. S. M. Magarian has located in Chariton, having practiced at Hiteman for a few years.

Dr. King, of Galesburg, Illinois, has recently purchased the practice of Dr. F. A. Saum, of Chariton.

Dr. T. V. Golden, Creston, has removed to Afton. Dr. Golden is secretary of the Union County Medical Society.

Dr. James Macrae, of Greenfield, is soon to locate in Creston to associate himself with the Cottage hospital staff.

Dr. Geo. H. Steele, of the Presbyterian Hospital of Chicago, has associated himself with Dr. H. E. Meyer, Belmond.

Dr. Nathan Boggs, of Kansas City, has located at New London, associating himself with Dr. C. E. Cook of that place.

Dr. E. J. Farlow, of Rapid City, South Dakota, has purchased the office equipment and library of the late Dr. B. S. Louthan, of Sutherland, and will practice at that place.

MEDICAL NEWS

Dr. T. F. Kelleher, Des Moines, has been seriously ill.

Dr. Roy Smith, Roland, has been very ill with pneumonia.

Dr. C. C. Smead, Newton, has returned from his winter's trip to Florida.

Dr. N. D. Ray, of Woden, has been suffering from blood poisoning in his arm.

Dr. A. B. Poore, Cedar Rapids, has recently returned from a trip to Japan.

Dr. H. H. Johnson, Princeton, sustained a broken arm recently when kicked by his horse.

Dr. Perry Engle, Newton, has been numbered with the la grippe sufferers the past month.

Dr. Effie S. McCrea, Eddyville, is suffering from a fracture of the left arm, the result of a fall.

Dr. H. C. Bryant, Corning, is being treated by a Chicago specialist for cataract of both eyes.

Dr. F. S. Abbott, of Wilton, suffered a broken

(Continued on Advertising Page XIV)

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collar bone recently when his Ford roadster turned a summersault.

Dr. Minerva Porter-Wertz, Spencer, has recently been at St. Johns Hospital, Sioux City, receiving treatment for blood poisoning.

Dr. R. J. Matthews, Clarinda, will go to New York City to spend several months in a post graduate course in the diseases of the eye, ear and throat.

West Union is rejoicing over their new hospital which was recently opened for service under the management of the Nurses' Benevolent Association of Iowa.

Dr. J. D. Hexom has returned to Decorah after an absence of several months in the south and west. While in New Orleans, he took post graduate work in the Charity Hospital.

Dr. Frederick Albee, of New York City, en route to Omaha, was the guest of honor at a luncheon tendered him at the Grant Club by the physicians of Des Moines. Dr. Albee held a clinic at the Lutheran Hospital while here.

Resolutions commemorating the life, character and service of the late Dr. William W. Hawk, Newton, were presented to the house of the Thirty-sixth General Assembly. Dr. Hawk was a member of the house of representatives in the Twenty-eighth and Twenty-ninth General Assemblies.

As a tribute to their earnestness, enthusiasm, modesty, energy, perseverance, and scientific acumen, the May number of the Medical Review of Reviews will be dedicated to the women physicians of America. As medicine was practically the first profession open to women, it is proper at this time to consider what effect their entrance into the medical profession has had.

The United States Public Health service reports on the Plague situation in New Orleans: Last case of Human Plague, October 4, 1914; last case of Rodent Plague, March 9, 1914; total number of Rodents captured to March 27, 307,203; total number of Rodents examined to March 27, 230,009; total cases of Rodent Plagues to March 27, 236 and total cases of Human Plague, 30.

The road condition in Iowa the past few weeks has given some of our physicians a taste of pioneer practice as is evidenced by the recent experience of two Madison county physicians. Dr. J. W. Carver, of Peru, in walking some distance in the country to see a patient was attacked with heart failure upon reaching his destination. Dr. G. N. Skinner, of Winterset, was summoned and made the trip of nine miles in four hours.

Drs. Henry Albert, A. L. Grover, and C. E. Royce, of the Department of Pathology and Bacteriology at the State University attended meetings of the American Association of Pathologists and Bacteriologists, American Association for Cancer Research and International Association of Medical Museums which were held at St. Louis, April 1, 2 and 3. Dr. Albert presented a paper on "Chordoma with a Re-

port of a Case" before the Association of Pathologists and a paper on "The Simultaneous Study of Gross and Microscopic Preparations in the Study of Pathology," before the Museum Association. Dr. Grover presented a paper on "Experimental Alcoholic Cirrhosis of the Liver," before the Association of Pathologists and Bacteriologists, and Dr. Royce presented a paper on "Sarcoma at the Base of the Skull" before the Association of Pathologists and presented reports on "Methods of Preserving Specimens in their Natural Color" and "Mounting Specimens for Permanent Preservation" before the Museum Association.

OUR ADVERTISERS

Announcement has just been made of the opening of a laboratory of surgical research in Chicago. The management announce that in connection with original research work on the part of the regular staff, private and class instruction will be given to surgeons desiring to perfect their technique.

The institution will be known as the Chicago Surgical Research Laboratory and a downtown office has been established at 327 So. LaSalle St., Chicago.

This institution, which is not to be conducted for profit, should prove a valuable addition to the several excellent post-graduate schools in Chicago. An announcement of the program and purposes of the laboratory appeared in last month's issue of this Journal.

When the Harrison law cuts off your drug habitue's supply remember "The Hygea Sanitarium" for the treatment of drug addiction.

The Standard Chemical Co., Des Moines, which is a regular advertiser in this Journal, was organized seven years ago with but small capital. Their growth was slow but steady until three years ago when the company was partially reorganized, since which time the business has increased three hundred per cent. Their new building at Eleventh and High streets is one of the most complete of its kind in the country, and provides ample facilities for the growing business of this enterprising firm.

"The Standard" kept "Open House" to the medical profession Saturday afternoon and evening, April 10th.

Dr. George F. Butler, who is meeting with gratifying success in making a high class medical institution of Mudavia, has opened a Chicago office at 1451 People's Gas Building, 122 South Michigan Boulevard. He will be at that office on the first and third Saturdays each month, from 2 to 4 P. M., for free consultation with those who wish to present their cases or who desire special information concerning the Mudlavia treatment. Appointment may be made in advance by addressing Dr. George F. Butler, Medical Director Mudlavia, Kramer, Ind.

Agar, sometimes known as Agar-agar or Japanese gelatin, is derived from seaweed. It is supplied commercially in dry, transparent pieces that are reduced to coarse flakes for medicinal use. It freely absorbs water and retains it. It has the additional property of resisting the action of the intestinal bacteria, and of the digestive enzymes as well. Its chief use in medicine is in the treatment of chronic constipation. Experiments have shown that when Agar is eaten as or with a food it passes practically unchanged into the intestine, where it permeates the feces, and, by keeping them uniformly moist, aids peristalsis. Hard and dry fecal masses are reduced to a softer consistency, normal evacuation resulting as a consequence. One or two heaping tablespoonfuls of Agar, according to individual requirements, may be taken once a day, preferably in the morning. It may be eaten with milk or cream, or mixed with any cereal breakfast food, with the addition of salt or sugar to make it palatable.

Agar is supplied by Parke, Davis & Co. in cartons of four ounces and one pound. It may be ordered through the retail drug trade.

A patent was issued December, 1909, for which the entire medical profession (especially those of us who are giving attention to chest troubles) is indebted. The patent covers a new instrument known as Huston's akouophone, which, though stethoscopic in character, differs radically from every stethoscope that we have ever seen. This new instrument really is a set of three instruments—a sensitive means of examining with accuracy all normal sounds; an accentuator that magnifies these sounds to almost any desired extent, and a device whereby accurate information may be obtained of every sound between the two extremes. This device is called an acoustic rheotome because it bears the same relation to the sound waves that the electric rheotome bears to the electric current. The ease with which the Huston akouophone now enables us to pick up, examine, magnify or reduce and thoroughly control the sound waves so that we may make contrasts of sounds and reject or confirm our diagnosis of their pathological character is perfectly marvelous.

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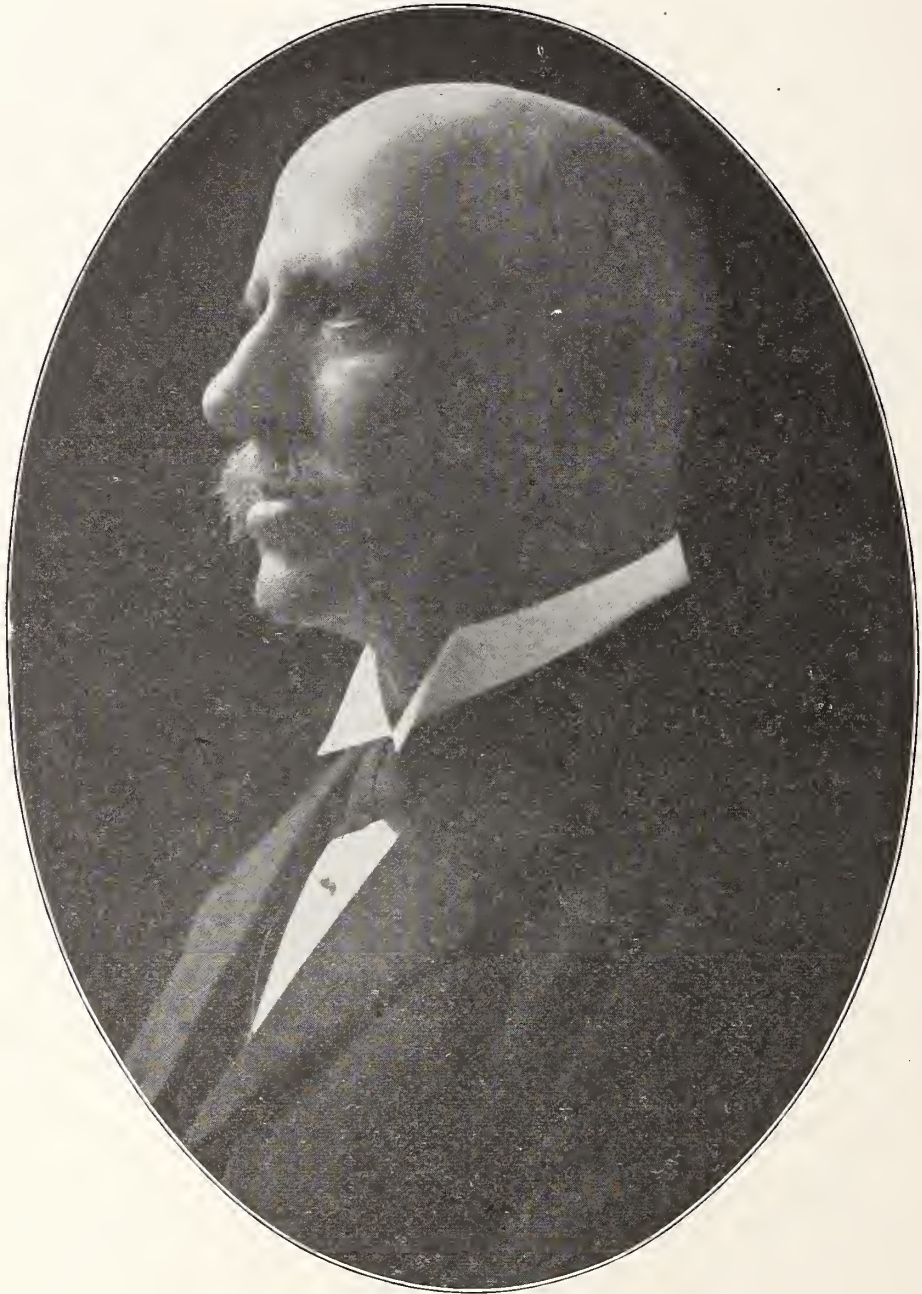
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DR. H. C. ESCHBACH
President
Iowa State Medical Society
1914-15

The Journal of the Iowa State Medical Society

Vol. V

DES MOINES, IOWA, MAY 15, 1915

No. 5

LEUKOPLAKIA BUCCALIS*

ROBERT LEVY, M. D., Denver, Colorado

It is a great pleasure to be here with you today. This reception is most gratifying. It makes one feel at home. Such good fellowship as I can not help but observe among the men of your section and such a spirit of good will abroad would make any one feel at home.

I have no set address to make but will very briefly present an interesting case which has come under my observation and from which I have learned a great deal. The case presents stages or processes if you will, coincident with and following leukoplakia buccalis.

Case History.—Male, sixty-three years of age when first seen which was five years ago, namely October 26, 1908. The history showed that a year previous he had had a tooth drawn which was followed by feeling of soreness in the mouth. Shortly afterward there appeared whitish deposits on the inside of the cheek. A brother had died of cancer of the stomach. The patient had always enjoyed good health. He was a railroad employe and smoked only moderately.

Microscopic examination of a smear from the inside of the cheek showed numerous bacteria some of them staining like the diphtheria bacillus, other being fusiform in shape with numerous spirilla. The most characteristic appearance was that of Vincent's angina. No treatment was of any avail.

The patient again presented himself in April, 1914. During the intervening time he had been under the care of surgeons at the railroad hospital. He had frequent cauterizations of the region from which the white deposits grew and upon which a growth had developed and had been excised. The lower jaw had been resected, the right common carotid artery tied and part of the parotid gland had been removed.

The railroad surgeon, a most competent man, reported that he suspected malignancy although there were no enlarged glands. Under microscopic examination the removed growth was said to be carcinoma but no specific details of the examination were given.

When I again saw him a few weeks ago there was a papillomatous growth upon the lower lip and one on the inside of the cheek covered and surrounded with white patches and giving forth a necrotic odor.

Microscopic examination of this growth showed

it to be papilloma. The interesting features of this case are:

First.—The fact that I was able to observe it over a period of five years noting the various stages in its development.

Second.—That while the diagnosis of malignant growth seemed reasonable, requiring radical operations, there seems to be no question that the condition at the present time is nothing but that of simple papilloma necessitating little more than excision.

For many years we have believed leukoplakia was very prone to result in carcinoma. This view should be modified. Bearing this in mind external disfiguring operations might often be avoided. Papilloma even of this character is not necessarily malignant.

DR. J. C. BECK, Chicago, Ill.: This is a very interesting case. I have seen a number of these leukoplakia cases in smokers, on the tongue and inside of the cheeks. I have never seen a carcinoma following leukoplakia but I have seen jaw resections in the belief that it lead to them. We should get away from this idea I think. I have seen carcinoma in a man who incidentally had a leukoplakia but there was no other connection. I have also found the organisms of Vincent's angina on leukoplakia as well as about bad teeth. I have treated leukoplakia by the aid of radium with positive evidence of its disappearance but recurrence was prompt just as soon as the radium treatment was stopped.

DR. LEVY: This slide of the case which I exhibit shows a typical papilloma, nothing else, and should be treated as such.

SECTION ON OPHTHALMOLOGY, OTOL- OGY AND RHINO-LARYNGOLOGY*

Presentation of Case of Laryngeal Obstruction by

J. C. BECK, M. D., Chicago, Illinois

With Exhibition of Patient

Exhibition of Patient. Past History.—One year ago child said to have fallen, striking neck on edge of a window seat, causing immediate laryngeal obstruction. The presence of pins about the floor where the child had been playing was also noted which might have a bearing on the case. Doctor summoned but nothing determined by digital examination. Case referred to another doctor with like results. Again referred to a general surgeon of good

*Read before the Iowa State Medical Society, sixty-third session, Sioux City, May 13-15, 1914.

standing who secured an X-ray plate. While examination of X-ray plate was not conclusive it was thought that a foreign body was probably present in the larynx and operation advised. An external opening into the larynx between the hyoid and thyroid failed however to discover a foreign body. (Dr. Beck makes the point here that he also has operated on suspicion of a foreign body, the actual shadow being overshadowed by the spinous process and yielding a plate difficult to interpret.) Following the operation a tracheotomy tube was introduced and left for three weeks. Withdrawal of the tracheotomy tube at any time caused immediate choking spells. A second operation again performed consisting in enlargement of the tracheal opening and the use of a larger tube. At this stage the case was referred to Dr. Beck for examination and treatment.

Examination.—Any attempt at removal of tracheotomy tube caused immediate laryngeal obstruction. Direct inspection found necessary to determine satisfactorily any conditions which might be present and general anesthesia required.

Operation (Dr. Beck).—Suspension position, chloroform. Examination of the larynx a good view of the vocal cords was obtained and shown to be normal in appearance but immovable. Common ear speculum introduced through tracheal opening found a very good means to examine the larynx directly from below. Vocal cords next dilated with long Killian speculum and stenosis below the cords from old inflammation found present. Diagnosis then made very promptly of traumatic sub-glottic stenosis requiring treatment.

Second Operation.—Ether at first employed but as good anesthesia was not being obtained the anesthetic was changed to chloroform resulting in immediate cessation of respiration, child apparently being dead. On hasty mouth to mouth inflation mouth of operator to tracheal opening the child responded and on recovery operation cautiously continued. Larynx now well split in median line, cords spread and sub-glottic stenosis all scar tissue freed with knife. A special tracheotomy tube (Jackson's up and down) inserted. Recovery from anesthesia. Operative tube removed in three weeks, opening gradually closing until today you see the child looking remarkably well, breathing almost normally and getting to the point where she can begin to make a little noise.

The points of interest to be noted in this case it seems to me are as follows:

First.—It is possible for all of us to fall down occasionally in our X-ray examination.

Second.—That almost any of these cases are difficult to handle.

Third.—That we should open and explore on suspicion of foreign body.

Fourth.—That traumatic conditions must be considered in connection with such a history.

Fifth.—That the best method of procedure when normal condition of the vocal cords is assured is laryngoscopy or dilatation from above. Occasionally also plastic operation may later be required for avoidance of disfiguring scar which I shall probably do in this case. If the child should again show any evidences of laryngeal obstructions a simple intubation alone would be indicated. This last however is quite unlikely.

DISCUSSION

DR. ROBERT LEVY, Denver, Colorado: These cases are certainly at times a source of a great deal of annoyance to us and require above everything else perhaps, much judgment and experience in handling. I would like to ask the essayist how he excluded a fracture of the larynx—from his account I would suppose that this might have been the original injury?

DR. W. W. PEARSON, Des Moines, Iowa: We have all appreciated Dr. Beck's presentation of this case very much. There is just one thing in addition to what has been said that is worth mentioning and that is that occasionally in these cases also the question of thymic asthma must be considered and ruled out.

DR. BECK: Fracture of the cartilage of the larynx in this case must, of course, be considered and I have no doubt that some kind of fracture was undoubtedly present at the beginning. The idea of the use of the special up-and-down metal laryngeal tube with right angle off-shoot was to relieve pressure and secure a more accurate fit of the trachea and larynx than is possible by the ordinary tracheotomy tube. This special form of tracheotomy tube was very satisfactory. The use of an intubation tube in this case introduced in the ordinary way through the mouth might well have been tried at an early stage but in view of the fact that pins were present on the floor where the child was injured and the slight shadow on the X-ray plate interpreted as a foreign body I think the previous physicians handling the case did the best they could and I have no criticism to offer on that score except to reiterate that no one is infallible. Thymic asthma is a good point to mention in discussion although in the nature of things not applicable I think to this particular case.

COLON BACILLUS INFECTION*

MAX EMMERT, M. D., Atlantic

Bacillus coli communis is a generic term, hence in considering this bacterium it is necessary to think of it as a species or a number of species marked by certain peculiar characteristics which distinguish them from other groups of species. The bacillus was first described by Emmerich in 1885, who found it while investigating cholera.

*Read before the Iowa State Medical Society, Sioux City, 1914.

The normal habitat of the colon bacillus is the intestinal tract, especially the colon. It is not so numerous in the small intestine of man because of the alkalinity and rapid flow of the contents. It is frequently found in the mouth, nose, vagina and on the skin under the nails and is widely distributed throughout our surroundings which have been contaminated from the intestinal tracts of man and animals.

The colon bacillus is very tenacious resisting desiccation for several months in some cases. However, ninety-nine per cent of the germs are killed by direct sunlight in two hours, and according to Billings and Peckham they are very susceptible to ordinary antiseptics. Dommmici estimates that the individual excretion of bacillus coli is from twelve to fifteen billion per day. This organism grows best in the presence of oxygen, but will grow less vigorously in the presence of carbon dioxide without oxygen. It is an acid producing germ and may destroy itself by the over production of acid. The chief danger of this bacterium is its ability to produce and liberate toxins, while the chief characteristic of the group is the production of indol which is so often noted in foul abscesses. Under normal conditions the bacillus coli communis is harmless, but with a lowered resistance or in those conditions in which it finds its way into new regions it becomes exceedingly pathogenic. The frequency with which it is found in diseases below the diaphragm has caused it to be compared with the pneumococcus which may be found in practically all infectious diseases occurring above the diaphragm.

DaCosta says it may be responsible for appendicitis, peritonitis, inflammation of the genito-urinary tract, pneumonia, inflammation of the intestines, lepto-meningitis, perineal abscess, cholangitis, cholecystitis, myelitis, puerperal fever, wound infection and septicemia. It is also the cause of many abscesses about the intestine and is responsible for many ischio-rectal abscesses.

Neumami says that the bacillus coli is able to set up any kind of enteric malady if the virulency is sufficiently pronounced, which may clinically resemble typhoid, cholera, dysentery, etc.

Gastro-Intestinal Tract.—The colon bacillus is found in the intestines of infants within a very short time after birth and may cause many of the intestinal disorders of infancy and early youth.

Escherich attributes to it the cause of enterocolitis and dysentery in children while Helmholtz and Kuttner claim that it causes peptic ulcers in very young children.

Any obstruction which produces stasis in the intestinal tract causes a marked increase in the number and virulence of the colon bacillus.

Stengel has called attention to the fact that the strangulation of a knuckle of intestine leads to a rapid increase of virulence of the contained bacilli.

Fenton B. Turk has produced an acute and chronic dilatation of the stomach experimentally by feeding large doses of bacillus coli to animals. He was also able to produce gastric ulcer in dogs by feeding bouillon cultures of bacillus coli for several months.

Patterson attributes ulcer of the stomach and duodenum to toxic absorption from the large intestine including the appendix and McCrea says that probably many cases of diarrhea are of this nature.

Taael and Larex, Hydenpyl, Ekehorn, Barbacci, Wilson and Siegel hold, that, the immediate cause of appendicitis is shown to be due to the colon bacillus. Deaver concurs in this view.

Murphy has shown that the rule for the colon bacillus infections of cellular tissue is the production of great infiltration for the small amount of pus present. This is frequently noted when operating for acute appendicitis and may be one of the etiological causes of adhesions in the right abdomen.

As a causative factor of peritonitis, both local and general, the bacillus coli communis occupies the most prominent place. Munro says: "The bacillus coli is the most common bacterium in infectious peritonitis." It may result from a rupture or perforation of the intestine or by the bacilli passing directly through the wall of the bowel. Even a slight abrasion of the mucosa will allow the organisms to pass through into the lymphatics.

In practically all disturbances of the intestinal tract the virulence of the bacillus coli is increased. It not only causes local conditions but may cause general infections which closely resemble typhoid fever and pyemia. It is frequently the cause of terminal infections at the end of some chronic illness.

Sanarelli has found that the bacillus coli isolated from typhoid stools were much more virulent than when isolated from the stool of a healthy individual.

Genito-Urinary Tract.—The colon bacillus is probably the most frequent causative factor of infectious diseases of the genito-urinary tract. Irons claiming that over fifty per cent of urinary diseases are due to colon bacillus. Gilliam classes it as one of the five bacteria considered in gynecology.

cology. The infection may occur through the external orifices, but more frequently from direct continuity or through the blood and lymph vessels. Escherich claims that it is the chief etiological factor in cystitis, especially in children. He found it present in fifty-eight of the sixty cases examined, while Ellis found that in one hundred and thirty-two cases of bacteriuria examined seventy-five were caused by the bacillus coli. Marsh calls attention to the great frequency of cystitis in infancy and early childhood, and attributes the cause to direct infection with feces through the urethra.

The manner of infection of the kidney by this bacillus is not definitely settled, though at the present time it is generally conceded that it is borne to the kidneys through the blood and lymph vessels, forming emboli in the kidney instead of passing up through the ureter as was formally thought.

This view is held by Noel Halle. McCrea calls attention to the fact that the right kidney is more frequently affected than the left because of the close proximity of the lymphatics from the colon.

In pyelitis and pyelonephritis the causative factor is usually the colon bacillus as claimed by Stengel. Many cases of preoperative nephritis clear up after the removal of the primary focus by abdominal operation. This is especially true in nephritis associated with appendicitis and ileus.

McCrea classifies the groups of pyelitis caused by this organism, as follows:

1. Pyelitis which comes on in the course of or during convalescence from another infection.
2. Groups occurring in children, the largest number in females.
3. With pregnancy or after delivery pyelitis, especially in the right kidney, is common.
4. Infection due to colon bacillus occurs in newly married women with urethritis, cystitis and pyelitis. It is important to recognize it in order to eliminate the suspicion of gonococcus infection.
5. Cases in adults in whom pyelitis and cystitis appear without apparent cause.

The frequency of colon bacillus infection in obstetrics is well known, Williams claiming that it may cause puerperal fever because of the close proximity of the genital tract to the rectum. It may also be the cause of many cases of slight endometritis with cervical catarrh as pointed out by Butler Harris.

Grover has recently reported an interesting case of fatal peritonitis caused by the bacillus coli from perforation of the uterus in a woman of thirty-five who four months previously had given birth to a healthy child.

Not only is the colon bacillus a prominent causative factor in the diseases already cited, but it may have a very prominent place in the etiology of many chronic conditions. Experiments by intravenous injections in animals produce marked anemia very similar to that found in pernicious anemia. Its relation to auto-intoxication Turk summarizes as follows: "As the indolic type of chronic excessive putrefication is due to the bacillus coli group of organisms the natural conclusion is that the indicanuria and its symptoms are the direct result of intestinal intoxication arising from the over production and over activity of the bacillus coli communis."

Opie has produced cirrhosis of the liver by injecting bouillon cultures of bacillus coli intravenously into dogs which had been previously chloroformed, and Metchnikoff has produced lesions of the nature of arterio-sclerosis with products of the colon bacillus.

Erbstein finds that pains in the joints and nerves are frequently of intestinal origin irrespective of caprastasis or diarrhea, which is simply another phase of intestinal auto-intoxication.

It can also be stated that bacilli coli communis may be responsible for chronic pyelitis, chronic nephritis, some forms of anemia and chronic arthritis.

Conclusions. 1.—The colon bacillus is found in so many infectious diseases occurring below the diaphragm that it should receive first consideration as an etiological factor in all such diseases.

2. It is so amenable to treatment that an early recognition followed by the proper therapy will result in fewer protracted maladies and a lowered mortality.

DISCUSSION

A. M. POND, Dubuque: It would be hard to overestimate the importance of any information that we might receive upon a factor that gives us so many diseases below the diaphragm. Dr. Emmert has very skillfully given us the source of a great deal of our information, but did not go sufficiently into the details of the inflammations caused by this little bacillus. It is a law of our physical economy that so long as the circulation of any hollow viscera is not disturbed, its function is performed properly; but the moment that stagnation or encroachment upon the movement of that canal occurs, trouble immediately arises. I have only to call attention to the fact that the cause of cholecystitis is primarily hyperaemia of the mucous membrane of the gall-bladder and may be due to infection or specific causes, but very shortly after hyperaemia occurs there is an invasion of this little bacillus coli communis that immediately causes trouble. From this engorged membrane is poured out a slime that entangles the salts of the bile, and we have the nucleus of our

gall-stones. So that we may truthfully say that the coli communis bacillus is directly, or indirectly, if you choose, the specific cause of gall-stones. It is surely the specific cause of cholecystitis in calculus cholecystitis, and we know that the commonest cause of appendicitis is the invasion of the colon bacillus. Not only where the appendix has lost its integrity and is perforated, the surgeon cuts into a walled abscess, but we know that the metastatic abscesses that we find above the kidney, perhaps in the pleura, and occasionally in the liver, are of bacillus coli communis origin.

Dr. Emmert has very wisely drawn attention to the importance of this bacillus in kidney lesions in urinary diseases, and I wish to emphasize what he said in regard to the diseases of children. So many times we find little ones that have a morning temperature and are pale and anemic, and not up to their normal nutrition, and the mother is anxious. The doctor ascribes the cause to gastro-intestinal troubles, when, if he would take the pains to make an examination of the urine, he would find the bacillus coli communis. Care is equally important in the management of a normal labor, the commonest cause of puerperal infections being the colon bacillus.

Another peculiarity of this bacillus is its tendency to unite with other bacteria and cause a mixed infection which exceeds the virulence of either singly. In the matter of metastatic abscesses in the abdomen, I believe, as Dr. Emmert says, this is the bacteria preeminent of the viscera below the diaphragm. I believe that every inflammatory condition owes its primary infection to the bacillus coli communis.

I think the paper is worthy of a very serious consideration by this body, and wish to congratulate the members of this Society on hearing such a paper as we have listened to.

C. E. RUTH, Des Moines: I was very much interested in the paper, but do not care to discuss it at length. I simply desire to emphasize, if I may, what the doctor indicated with reference to the gravity of inflammatory troubles in the abdominal cavity produced by the colon bacillus in connection with renal pathology. This was brought prominently to my attention in a case that came into my hands a few months ago—a very vicious case of appendicitis. I insisted that a careful examination be made of the blood and urine. Although the case was a perfectly plain and an urgent one for operation, my assistant, the pathologist, obtained a catheter specimen of urine and after centrifuging a portion of the same asked me to look at the fluid. And I never saw a case in which the granular casts were piled up like cord-wood sticks as they were in that one. The case had been of only about four days' duration, and the patient never had given a history of any renal trouble whatsoever, and yet when we came to investigate we had an albuminuria so pronounced that on boiling you could almost turn the test tube upside down and leave the jelly-like mass in it. Of course it modified our operative plans somewhat, and we got into that abdomen and out

just as quickly as we could. Suffice it to say that it caused me to think seriously about how many of the grave cases of appendicitis we lose because of the kidney lesion that is never suspected. The kidney trouble had almost cleared up within five days the albumen had disappeared, and every danger of renal irritation was gone within ten days.

W. L. BIERRING, Des Moines: I would like to inquire of the essayist as to whether he can give us any clear idea as to the primary or secondary role of the colon bacillus in infections of the gall-bladder, the appendix, and possibly also some of the other abdominal viscera. We know of the recent experimental work of Rosenow in which he has successfully produced cholecystitis and appendicitis with a strain of streptococcus. During the past year, Dr. Glomset, of Des Moines, has made a series of examinations in a large number of cases of acute cholecystitis in which in each instance the predominating organism in the first culture was a streptococcus, yet in the subsequent drainage from the operated area the colon bacillus was usually present. The question arises whether in inflammatory processes below the diaphragm, some mild form of streptococcus, or staphylococcus acts as the primary infective agent and then the colon bacillus enters as the secondary invader and is productive of the necrotic, putrefactive and the gangrenous changes incident to the subsequent history of the infective process. In other words, is the colon bacillus really the primary agent of the infection in the abdomen, or does some mild pyogenic organism first give entrance, and then the colon bacillus produces the secondary effects?

DR. EMMERT: I don't believe I am able to answer that question. I know that under normal conditions the colon bacillus does not show any pathological traits, but with any obstruction of the colon the colon bacillus assumes virulence, and whether or not it is a mixed interest, and whether the cocci are any factor, I am not able to state.

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CONSERVATION OF THE MIDDLE
AGED*

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Acute diseases are common to all ages and deserve the careful study which they are receiving at the hands of physicians and laboratory workers. The thought given to them and to surgery during recent years has diverted the attention of the medical profession from another class of diseases or conditions which develop in middle or later life. These are so insidious in their onset and cause, as to be commonly overlooked until they have advanced to a stage where at best only amelioration can be offered.

As years advance our bodies grow old and ripen, as it were, as all living beings do. There is a physiological limit, which varies with the individual, but which in a general way be said to terminate at seventy-five or eighty, beyond which man may not hope to live. The problem is to conserve health and usefulness up to that time of physiological ripening. A great many who have just reached a time in life when their usefulness is greatest are found to have already developed some chronic disease which will shorten by many years not only their labors but life itself. A more careful study of those diseases which manifest themselves at ages between forty and sixty is desirable. Such a study is necessary that more practical efforts at prevention may be instituted. True, much has already been done, but a great deal yet remains unknown.

This is the cancer age and a most careful look-out should be kept for any evidence of malignant disease. All parts of the body but especially the breasts, uterus, stomach and colon should be kept under observation. Our knowledge, or rather want of knowledge, of the specific cause of cancer and the want of a cure except as may result from very early removal, should impel us to great vigilance and early action in suspicious cases.

It is not however malignant disease that we intend to discuss but conditions in which are found arterio-sclerosis, high blood pressure and chronic nephritis. There may be a question as to the priority of these conditions, their relationship and their effects. There can not however be any question as to the association of each with changes, from the histologic and physiologic normal which is a fore-runner of early disability and dissolution. While the blood-pressure in health varies more than does the temperature, yet it is remarkably constant. The variations found are

all within certain limits and are so maintained by nervous influences.

As a result of a study of the recent work done in research laboratories in the physiology of blood-pressure and the causes of pathological variations, one is led to the conclusion that: First.—The entire blood distribution in health is under the control of the vaso-motor nerves. That second.—The great splanchnic vessels form a reservoir, by their action on which the vaso-motors keep up the nearly uniform pressure found in health. That third.—Disease of these splanchnic vessels, i. e., thickening of their walls, lessening of their lumen, and lessening of their capacity for dilatation and contraction, are the great causes of hypertension. That fourth.—Hypertension secondarily results in hypertrophy of the left ventricle and often of the entire heart. That fifth.—Hypertension together with infections, toxins and various substances of metabolic origin circulating in the blood, cause general arterio-sclerosis, and that sixth.—Chronic interstitial nephritis is primarily caused by disease of the arterioles of the kidney resulting in the successive destruction of small areas of the kidney substance until not enough is left to carry on its function. That seventh.—Hypertension does not result from sclerosis of the peripheral vessels independently of the splanchnics. In a word it may be said that hypertension, hypertrophy of the heart, chronic interstitial nephritis and arterio-sclerosis are the result of a primary disturbance of the circulation in the splanchnic area.

A most important question then is what are the causes of disturbed circulation in this region?

Two primary general causes of increased blood-pressure may be considered. The first is physiological within certain limits, but may become pathological. The second is always pathological.

Under the first may be included the physiological increase of pressure due to mental effort or study, teaching, talking, lecturing, excitement, anxiety, worry and all varieties of mental activity and strain. So also muscular or physical work markedly increase blood-pressure. Especially does intricate or difficult work which calls for mental effort along with the physical effort. A rise of blood pressure in these instances when followed by relaxation is physiological but when too severe or too long continued uniformly leads to a permanent rise in pressure by over stimulation of the vaso-constrictors. Long continued strain on the blood vessels tends to cause an hypertrophy of the middle or muscular coat of the arterioles in the same manner that hard labor

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produces hypertrophy of the voluntary muscles or severe strain produces cardiac hypertrophy in the athlete. As a result of this hypertrophy and over-strain; in time degeneration of the muscular coat, or media, takes place, producing a fibrous non-elastic, slowly contracting media, which eventually results in narrowing of the arterioles and permanent increase in blood-pressure. Concomitant with, and as a result of this disturbance of pressure in the vessels there develops an hypertrophy of the heart, especially of the left ventricle. This cardiac hypertrophy has a tendency to keep the pressure above normal even at times when the vaso-motors are not overacting. In this manner a sort of vicious circle is formed whereby the increased pressure caused by the contraction of the arterioles produces hypertrophy of the heart, and the hypertrophy of the heart results in a maintenance, if not a farther increase, of the pressure.

In contra distinction to this first list of causes, which are physiological in nature and become injurious only through excessive action, is a second class in which the injury, causing increased tension and its sequelæ are pathological from the first. In this class are included all poisons, toxins and irritant substances which may circulate in the blood. These irritants may act directly on the mucular coat of the vessels, or on the vasa-vasorum thus injuring the media; or by irritation or stimulation of the vaso-motor centers. Whatever the mode of action the sequence is the same; increased resistance in the arterioles, cardiac hypertrophy and still greater increase of pressure.

Among the substances causing injury to the blood-vessels are, alcohol, tobacco, lead, mercury, excessive ingestion of meat, coffee, tea and spices. Also excessive quantities of fluids as in beer drinking. Over feeding with any kind of food, resulting in fermentation or decomposition of food products and absorption of toxins from the alimentary canal is a source of irritation to the vessels. The toxins produced in infectious diseases as scarlet fever, pneumonia and typhoid as well as chronic suppuration, especially when confined as in middle ear and sinus disease, root abscesses about the teeth and so on act as causes. A prolific cause of arterial degeneration is syphilis. This disease often acts directly on the media of the arteries but may act by causing disease of vasa-vasorum. It is claimed by some that the evil results of these poisons are brought about indirectly by their action on the suprarenals and thyroid. There are many facts which tend to support this view, but be that as it may, these

poisons and irritants result in disease of the vessels, especially of the abdominal vessels, increased blood-pressure, hypertrophy of the heart chronic nephritis and arterio-sclerosis.

As stated above chronic interstitial nephritis is probably the result of disease of the arterioles of the kidney by which small lobules, one after another injured in their blood supply, degenerate and leave in their place an excess of fibrous tissue. Thus it would come about that the same excitant or toxic substance would produce a series of injuries, involving the heart, blood-vessels and kidneys at the same time, thus answering the question as to which is primary and which secondary.

The early diagnosis of cardio-vascular disease and interstitial nephritis is a matter of much importance. While age is a great factor, there is no definite age at which these diseases begin. It depends on the inherited quality of the arterial and other tissues, and the abuses to which these tissues have been submitted. Under like conditions one person will develop disease much earlier than another. The diseases under consideration are seen even in early childhood, yet they are very rarely present before thirty and usually may not be found before forty or fifty years of age. In any case it behooves us to be on the lookout for such changes in persons of middle age.

In the detection of these diseases, palpation of the superficial arteries, when it reveals sclerosis, is of marked assistance in diagnosis. The character and extent of the disease is worthy of note. Palpable arteries do not necessarily mean serious disease of deep structures or increased blood-pressure but are certain evidences of degenerative changes. Careful observation of the blood-pressure is one of the most valuable means of detecting departure from the normal. Of course a reliable instrument with a wide cuff should be used and the readings made when the patient is composed and sitting or lying quiet. Any increase of pressure above 140 m. m. in a person of forty should be sufficient to call for frequent and careful observation. Examination of the heart for evidence of hypertrophy or changes in the aortic sounds should be a routine. In certain cases the earliest evidence of the disturbance will be found in the urine. The entire quantity for twenty-four hours must be at hand. The quantity and specific gravity are important as an index of the amount of solids excreted in twenty-four hours. A careful estimate of the total urea excretion for the same time must be made, the significance of which to some extent depends on the character of the diet and its urea producing character. A

reliable test for albumen is essential; the presence or absence of indican, of pus, blood, casts or excess of epithelial cells should be noted. Possible contamination of the urine from other sources than the kidney must be kept in mind. The information gained by these examinations, from the history of the patient and from his habits of life must be correlated, when usually a correct conclusion as to the presence or absence of disease may be drawn. It is so easy to fail for want of sufficient care that repeated suggestions of caution can not be out of order.

Marked increase of blood-pressure is in itself sufficient to base a diagnosis on, but even a slight increase when associated with urine of low specific gravity, low urea and solid contents even without albumen or casts, is sufficient to determine incipient disease. If there is albumen and casts the condition is evident.

Difficult as it may be to determine the presence of cardio-vascular-renal disease in its early stages, yet more difficult is it to discover the specific departure from normal in life or habits of the individual patient and to plan a change or mode of life which will stay the disease if not cure it. Careful inquiry must be made as to the possibility of the disease depending on an excessive physiological reaction as mentioned above. If there is excessive mental strain, anxiety, worry, or mental overwork, or too severe physical labor without relaxation, especially if the physical labor is intricate and requires close application, the tension produced in the blood-vessels by the action of the vaso-motors will result in permanent disease. This is the method by which the high strung energetic business or professional man who works long hours, putting an unusual amount of energy into his work becomes affected.

The remedy is to limit mental and physical effort to that which may be completely compensated for by relaxation and rest. The mind and nervous system should be relieved of all strain and stress of business during part of every day with complete rest at night. Vacations, during which there is still more perfect relaxation may be necessary and should there already be evidence of permanent increase of pressure a prolonged rest of months or a year or two with proper attention to diet, hygiene and so on, may be necessary to restore equilibrium. All worry and anxiety must be dismissed and a quieter, calmer method introduced into the every day life of the individual. Attention to the secretions and excretions are very necessary since fault in these functions are in themselves sufficient to produce

disease. We are speaking now of those cases in which no marked change has taken place and in which the cause is primarily physiological but in which its action is excessive and prolonged to such an extent that it brings about the diseases under consideration. Some authors believe the results are more indirect; that is that the action of the exciting cause disturbs the function of the thyroid and suprarenals and that their disturbed function results in disease.

In a second class are those cases in which there is a poison or toxine or several of them circulating in the blood which injures the blood-vessels and irritates the vaso-motor centers and possibly disturbs the functions of the thyroid and suprarenals. The excessive use of alcohol and tobacco are possible causes and should be stopped or at least so restricted as to prevent farther injury. Chronic lead poisoning will produce the disease and should be sought for and the cause removed. The excessive use of coffee, tea and spices should be avoided. Heavy meat diet tends to bring on this condition, therefore meat should be greatly restricted. Excessive quantities of fluids, especially beer is injurious and should be prohibited. There is probably greater harm done by excessive quantities of food than by its character. The American people as a whole are well fed and the tendency is to take too large quantities of food. Many of the ill feelings of ordinary life as well as the permanent troubles here discussed are the result of long continued over feeding. The treatment is obvious, cut down the quantity, if needs be to one-half or less. Some persons who are over eating will declare they cannot live without their full allowance but if the necessity of restriction is urged upon them and properly explained they will usually co-operate. Restriction of diet is more often called for in those who do not exercise, and the restrictions are rather in quantity than in kinds of food. It is at times remarkable how they will be relieved of headache, constipation, dizziness and other ominous symptoms and instead develop a sense of well being before unknown. As a result also the urine improves in character, the complexion is better as is also the capillary circulation and there is a slow lowering of blood-pressure. Proper elimination should at the same time be maintained through the bowels and attention given to all matters of hygiene.

In certain cases it may be found that the toxins producing this condition have their origin in some focus of chronic suppuration. The gall-bladder, urinary organs, nasal sinuses, teeth, middle ear and tonsils may be implicated and of

course should receive proper treatment. Syphilis if present, as determined by proper tests must be treated. Constipation is a common condition and is a fruitful source of auto-intoxication.

Many schemes have been put forward in an effort to find a way to prevent and cure constipation. Some of these plans are effective, others without merit. It may be said in a general way that hygienic methods, correct habits and diet should be relied on whenever possible. Some cases however call for a course of active energetic eliminative treatment before any progress can be made. In some instances a good course of castor oil will accomplish more than anything else. A large tablespoonful every day for a week or two, then every second day, later every third day and so on until there is a thorough cleansing of the system. At times a course of alkaline cathartic mineral waters are effective in lessening toxæmia and increasing elimination. Medium doses of salicylate of soda combined with bile salts after meals is beneficial in thinning the bile and benefiting constipation. The effect of these however, is only temporary and must be accompanied and followed by attentions to diet and habits of life as mentioned above.

In conclusion: (1) The evidences of premature age and degeneration may often be found at forty or fifty years of age.

(2) These degenerations involve especially the cardio-vascular-renal system.

(3) Many cases are at first functional, the result of hypertension in life. Too severe mental strain, overwork, worry, anxiety and so on.

(4) Toxæmias, whether from tobacco, alcohol, lead, mercury, etc., or metabolic wastes, are responsible for the majority of cases.

(5) The thyroid and suprarenals may be involved in the causation. Their disturbance however is usually secondary to either one of the two general causes mentioned above.

(6) The diagnosis may usually be made early if sufficient care is given to the blood-pressure, urinalysis and the condition of the heart.

(7) The treatment in the first class of cases is the regulation of the habits of life. Avoidance of anxiety, worry, mental strain of overwork and business cares, with hygienic living, complete relaxation, vacations and proper attention to diet and elimination.

(8) In the second class also worry, overwork, and all severe mental strain should be eliminated so far as possible. Any source of toxæmia; as alcohol, tobacco or lead must be excluded. Over eating with any kind of food, but especially meat

should be corrected. Elimination by the bowels and kidneys should be brought up to normal and maintained at that point. In fact all departures from the physiological normal must be corrected since such are primarily the cause of this premature degeneration.

(9) Drugs are almost indispensable but are secondary to the measures mentioned above. Thyroid extract in moderate doses is useful in selected cases, alkalies are often needed to assist elimination. Laxatives may be necessary or even a vigorous course of cathartics in the early stages of treatment. Castor oil, salines and mercurials may be used. Static insultation and the sinusoidal currents have a powerful action on metabolism and are sedative to the hyper-sensitive vaso-motor system. The proper use of these should be considered.

(10) Best of all is prevention by a well ordered life from early years so as to avoid the first elements of the disease and to so conserve the body as to have all its parts ripen together and not before the three score and ten years.

THE USE OF PITUITARY EXTRACT IN LABOR*

NELLE NOBLE, M. D., Des Moines

Pituitary extract is a new member of the glandular extract group which has made a permanent place for itself as a therapeutic agent. It is the most reliable oxytocic agent known. European physicians have discussed its action considerably but medical men in America have not investigated it to such a great extent. To Bell¹ of England in 1909 belongs the credit of first using this drug in obstetrics. We have derived a great deal of our knowledge concerning this drug from advertising circulars. Knowing how enthusiastic such circulars are, we often put little faith in them and do not give the drug the proper trial. It is for this reason, believing it to be a valuable remedy, I have thought it worth while to report what leading men have written and what I have observed from a limited personal experience of the use of pituitary extract in labor.

The pituitary gland is located at the base of the brain in the sella turcica of the sphenoid bone. It has an anterior and posterior lobe which are joined together by a stalk. The ant. lobe is an outgrowth of the buccal cavity and is essential to the maintenance of life. The post. lobe and stalk are of epiblastic origin and neuroid in character. They only contain the oxytocic and blood raising principle and are used alone by manufacturers in preparing this extract. It has no effect in

*Read before the Polk County Medical Society, Oct. 27, 1914.

medicinal doses by mouth. It is usually given intramuscularly or subcutaneously, and the physiological action is obtained in from two to five minutes. It may be given intravenously, if immediate action is desired. Each ampoule is dated and it should not be used after six months. It must be kept air tight as it oxidizes.

In pregnancy the pituitary gland hypertrophies as well as the thyroid and thymus glands. The pituitary reaches its maximum at term. At this time the birth substances from the foetus probably act as hormones do in stimulating the secretion of the post. lobe. The gland undergoes involution after lactation. From my observation and from medical reports I would state that the chief physiological action of pituitary extract is the production of rhythmical contractions of the uterus when the patient is in labor. It also causes a moderate rise of blood-pressure and a slight decrease of pulse rate. Beck³ and O'Malley found that it increased the blood-pressure from eight to thirty-eight m. m. and that the pulse fell from four to seventeen beats per minute. The action on the blood-vessels is similar to adrenalin. It decreases the size of the arterioles. It stimulates the muscles of the bladder and intestines as well as the uterus but to a slighter degree. If employed in labor the initial effect may be evidenced by a single or at most a double tonic contraction of the uterus which lasts several minutes. This is soon followed by rhythmical contractions which gradually increase in intensity and frequency. In small doses the nature of the contractions is not clonic but regularly rhythmical and compared with natural contractions are only more powerful and frequent. The action is not impaired by general anesthesia. Gardlund⁴ says in extremely susceptible individuals, tetany of the uterus may be induced. The effect seems to depend on the individual response of the musculature, and may not always be relied upon.

I believe it should have no place in normal labor. However our opinions differ very widely as to what constitutes normal labor. Rich⁵, who has delivered 2,108 babies without a maternal mortality says regarding pituitary extract, "It is a valuable remedy in order to stimulate uterine contractions when a stimulant is indicated, but when used simply to hurry things for the convenience of the doctor, when progress is normal, is unjustifiable."

It is contraindicated where there is a possibility of the cervix rupturing instead of dilating as in scars and carcinoma, and where there is danger of the fundus rupturing. It is contra-indicated in cases with high blood pressure such as arterio-

sclerosis, and eclampsia in which there is an elevated blood-pressure. As the blood-pressure in collapse, shock and phthisis is low, its use is indicated in these conditions. It is contra-indicated where there is a marked disproportion between pelvis and baby. Abnormal presentations such as face, frontal transverse and breech, malformations, polypi and marked pelvic contractions are included in the list of contra-indications.

As to positive indications these include any vertex presentations, uterine inertia, selected cases of placenta previa, and puerperal eclampsia where the blood-pressure is not alarmingly high. Selected cases are necessary for the successful use of pituitary extract, and careful doses and management of the case are required for a successful administration of the drug.

It has little effect in miscarriage. To produce labor at term inject one or two c.c. in deltoid or gluteal muscle and follow with another c.c. when the contractions cease. A mechanical bag or manual dilatation should be used to aid the effect of the drug. It has no toxic effect on mother or child. Recently by manual dilatation and one c.c. of pituitary extract I started labor in a girl who was a few days past the average time of gestation. There were no signs of beginning labor, before the injection. Contractions began in twenty minutes and continued at intervals until she was delivered in twenty-four hours. I may add that one c.c. of pituitary extract was given and repeated during the second stage with but little effect and instruments were finally necessary to deliver her.

Bertha Van Housen uses it in all stages of labor but guards it with scopolamine and morphine. She does not leave the patient after labor has once started. Harrison⁶ of Toronto says that when the soft parts are dilated he has failed in only one per cent of cases to relieve weakness of uterine movements. Lindeman⁷, says in substance when the head is on the perineum for a great length of time, the pains ineffectual and infrequent, the patient tired and desiring the use of forceps, an intramuscular injection will usually deliver her.

Forceps rarely need to be used for inertia if one will use pituitary extract. It decreases the percentage at least one-half for the use of forceps. Many surgeons inject it just preceding the incision for Cesarean section. It aids in the expulsion of the placenta and allows the uterus to contract. Lindeman says when the cervix is not dilated beyond four fingers never give over one c.c. for an initial dose. He advises its use before forceps are tried. Where the cervix is not quite

dilated and the pains are severe he gives morphine and a little later pituitary extract.

Pituitary extract is superior to ergot in postpartum hemorrhage. Its action is almost immediate and the contractions are intense and prolonged. Ergot may be combined with it if desired. It is given without danger before the placenta is expelled and should be used before the hand is inserted if necessary to separate the placenta. It usually delivers rapidly and with little bleeding. After pains are sometimes an undesirable after effect. It helps stimulate the bladder and one rarely needs to catheterize following its use. It is a dangerous drug if used injudiciously, but if properly used it is a helpful, therapeutic agent.

1. Bell. Brit. Med. Jr., Dec. 4, 1909.
2. Klotz. Munich. Med. Woch., 1911, No. 21.
3. Beck & O'Malley. Am. Med. Oct., 1909.
4. Gardlund. Hygeia, Sweden. XXV, No. X.
5. Rich June 14. N. W. Medicine.
6. Harrison. Arch. Int. Med. Sept. 15, 1912.
7. Lindeman Jr. Ob. Feb. 14, July 13.

DIAGNOSTIC TECHNIQUE IN PULMONARY TUBERCULOSIS*

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In this paper such diagnostic technique as will serve the examiner in making an early diagnosis of pulmonary tuberculosis will be discussed. It is our duty to clear up the question at the first opportunity permitted us in those cases presenting themselves complaining of anything which is suggestive of tuberculosis. Before teaching the laity we must thoroughly instruct ourselves. In an examination the plan of examining the patient from hair to toe-nails is followed in detail being careful to overlook nothing which will be of value in summing up the evidence, that a correct answer may be obtained.

History Taking.—A careful, methodical and painstaking history is to be taken of each case. The findings are to be recorded and the record catalogued for immediate and future reference. To take a case history adequately requires tact, skill, practice and patience. The history is one of the best aids we have to clinically study this disease. The first details interrogated are the name, address, age, sex, race, birthplace and occupation; then in their order are taken the family, personal and present illness histories.

Family History.—A specific statement should be secured of the immediate family, grandparents, uncles and aunts regarding tuberculosis, that we may be able to determine whether or not hereditary taint is a myth concerning tuberculosis.

The family history is also of some prognostic value.

Personal History.—At this time it is well to determine the date of onset of the present illness (complaint) to avoid getting the items belonging to the present illness confused with those of the personal history. It will save time, to let the patient know that the information now desired has reference only to the time before the present illness. Specific statements should be obtained concerning measles, whooping cough, pneumonia and pleurisy, with full notes as to their severity, duration and complications; for their value as exciters of pulmonary tuberculosis is well understood. The knowledge of previous diseases is oftentimes of intrinsic value in determining predisposing causes. The patient will often describe previous afflictions, as a prolonged attack of "pneumonia," "grippe," "rheumatism," "typhoid-pneumonia," "typhoid fever" or "malaria," which may really have been manifestations of consumption. Question is made if headaches are suffered from, flushing of cheeks (hectic), shortness of breath, the character, time of occurrence and duration of each.

Fever is an important symptom of tuberculosis. The thermometer is to be kept under the patient's tongue, with the lips closed for five minutes, no matter how quickly it may register. The morning temperature of the tubercular is sub-normal and continues so throughout the disease. Minor considers any temperature under 97.8° F. sub-normal. The evening temperature is generally elevated, 99° F., or over.

Cough is one of the earliest and most persistent symptoms; it may be so slight that, "clearing the throat in the morning," is the only thing complained of. Although there is no 'pathognomonic cough' of the disease, it is well to note the character, whether metallic (nerve pressure), hacking (pleural), or deep and paroxysmal (inflammation of the upper air passages), for the relative diagnostic value of each. Cough due to an acute inflammation ("cold") seldom lasts three weeks and should be looked on with suspicion after that time.

Expectoration, if present, must be interrogated as to its character (blood-spitting), amount and duration. Hemoptysis means that we are dealing with pulmonary tuberculosis until it is proven otherwise. Expectoration seldom occurs in the child under six years of age, for it has not learned to spit, therefore the lung product is swallowed. A diligent microscopical examination is necessary in these cases which "spit-up," even if the

*Read before the annual meeting of the O'Brien County Medical Society, December 8, 1914.

amount is scant. Care should be taken to secure only the material "coughed-up" and not the discharge from the posterior nares.

Chill in the early stages is a rare occurrence, except possibly a slight chilly or creepy sensation. In the acute varieties or with complications real rigors are experienced, and they are common in the third stage, especially if a mixed infection exists. Chills usually occur in the afternoon.

Night Sweat.—Question is made as to how often this phenomenon occurs. In the moderately advanced case night sweats stand for general physical weakness, and when associated with fever speak for tuberculosis until their etiology can be recognized. The skin of many patients gives off a peculiar odor not unlike that of decomposing tuberculin. Pains in the chest, palpitation, fainting and anemia are questioned for minutely.

Gastro-Intestinal.—The appetite and digestion, habits of eating and the condition of the bowels are ascertained. Loss of appetite, especially for breakfast is a common symptom. Associated with anorexia, "stomach trouble" is often complained of with such subjective symptoms as "gas-eructations," "indigestion," "heart-burn" and "constipation." Tendency to diarrhoea is to be considered as of possible tubercular origin.

Genito-Urinary.—We seek to know if there is frequent and painful micturition and whether it is increasingly so, particularly at night, or if there is hematuria or pyuria, which interpret renal metastasis.

Nervous, Muscular and Skin.—The neurotic element often obscures the real lesion (tuberculosis), being so closely associated with it; but we must never let the "neurotic" element obscure the real pathology. Head (J. A. M. A. Vol. LXIII No. 12), says the nervous symptoms exhibited by these patients ("neurasthenics") should be interpreted as a new clinical sign of tuberculosis.

The history of slow healing skin lesions, discharging sinuses (Pott's), or ulcers, is suggestive of dyscrasia. In the suspicious tubercular patient it is of practical value to make a careful note as to the habitat. The average weight is asked for; also, if any, the loss of weight. If the complaint is "loss of weight" it can be accredited, but if the statement is made during the taking of the history it must be verified.

Present Illness.—The date of onset is to be accurately noted; for it is of importance when we later consider the prognosis. So often patients give a definite time of onset and on questioning it

is found that they have been sick for weeks. The history is then brought forward in a connected manner making a complete story. Considerable ingenuity must be exercised in eliciting information without asking leading questions which produce biased answers from the bewildered patient, which in turn baffle and misguide the examiner. Judicious questioning should elicit such subjective symptoms as loss of sleep and appetite, cough and expectoration, evening feverishness and chills, and sweats. The important points are jotted down on the history card to be summed up along with the evidence secured by the physical examination.

Physical Examination.—In this lies the real work of diagnosis. It is essential that it is made in a systematic manner. It is important that the examiner does not hurry. It is equally important that a record be kept of all the findings. The patient's clothing is removed and an examination gown donned which will afford easy accessibility to examination. The general points to be considered are the nutrition, whether it is good or deceptive; the expression, whether the appearance is sick or not. The hair is examined as to its texture; also the condition of the scalp and eyelashes is noted. Luxuriant eyelashes and hair, along with a dry harsh scalp are oftentimes encountered in the tubercular subject. The pupils are noted as to their uniformity; for the pupil on the affected side is often more dilated than the other and the reaction to light is more sluggish (sympathetic reflex). The ears, nose and throat are inspected and the findings noted. Stern (Berliner Klin. Woch. Vol. 4, No. 30) writes that, paresis of the vocal cord on the side of the lung lesion, associated with slight chronic laryngitis, is an exceedingly early sign of chest trouble (the larynx sign). The thyroid is examined to note its size, shape and consistency.

Inspection, Chest (frontad).—It should be noted if the two sides are fully developed or deformed. The supra and infra-clavicular fossæ are inspected to see if they are deep or comparatively deep on one or both sides. The musculature on the affected side is often less well developed. These are stated to be but predisposing factors to a tubercular focus and not a consequence. The expansion is recorded if equal or difficult. The respiratory excursions are observed, to note if they are painful, free or restricted. The lagging of one-half the chest in the excursion of the thorax is a sign of trouble within, usually involving the pleura.

Litten's sign, or the excursion of the diaphragm is a valuable diagnostic aid in chest ex-

amination. It is absent or limited when the pleural cavity contains fluid or air, or when it is obliterated by adhesions, in pneumonia of the lower lobe, emphysema of the lungs, and in intrathoracic tumors low down in the chest. The sign is not difficult to elicit if the patient lies flat on the back with the feet toward the light (cross light excluded). The examiner standing to one side and behind the patient sees during inspiration a shadow moving downward along the mid-axillary line, to move upward on expiration. The excursion width is marked with a skin pencil, measured, and the other side's findings compared. The normal width of the excursion is about from the seventh to the ninth rib on the left, and from the sixth to the eighth rib on the right side.

Abdominal pulsations may be found and can be recorded under the heart findings. Inspection will give valuable clues to pathological conditions within the chest and should be made with the patient standing, sitting and recumbent in good daylight.

Palpation.—By palpation inspection is confirmed as to expansion and pulsations. Areas of unilateral tenderness (intercostal neuritis, pleural involvements, etc.) are sought for. Pottenger's muscular spasm (The Lancet Clinic Dec., '09) is felt for. Tactile fremitus is elicited, one side against the other, to note if it is increased (+), decreased (—), or absent (o). Friction fremitus, if present, is also ascertained.

Percussion.—Many refinements for percussion have been introduced; for example, sounding-boards, plexors and pleximeters, tuning-forks, etc., and it becomes a personal matter in the choice of the method used. The inflammation of the lung tissue must be larger than a silver dollar and of considerable density to give a sufficiently high pitched note for the average ear to catch and the cavity of a similar size to give the "cracked-pot" sound. I am convinced that of all the physical methods percussion is the one with which one can fool himself the easiest. It is not difficult to get a change in the percussion note if one knows just where it ought to be. I have confirmed Cabot's view by checking up with the X-ray percussion errors made by myself and many more skilful men. In fact, when I percuss it is to see what I can feel and hear, rather than what I can hear.

Auscultation.—This is the confirming method. The binaural stethoscope is the most satisfactory. The front of the chest is examined first, the breath sounds are listened to and compared on the two sides to note if they are vesicular, tubu-

lar, bronchial or roughened and if expiration is prolonged. If rales are present they are noted as to their location, character and their time of occurrence in the respiratory cycle. If the rales clear on coughing they are transitory; if they are produced or increased by coughing twice at the end of forced expiration we have damaged lung tissue to deal with. The voice sounds on the two sides are compared and areas are noted in which the intensity is increased (bronchophony, pectoriloquy, ægophony), decreased, or absent. The back of the patient is examined as just described.

We are to remember that in the normal chest the following points are observed: 1. Inspection is chiefly negative; 2. Palpation gives exaggerated fremitus on the right side; 3. There is normally a slight dullness on the right side; 4. There is a vesiculobronchial murmur and exaggerated vocal resonance on the right side. These are the findings secured in incipient tuberculosis except the adventitious sounds which are: 1. Rough or harsh breathing; 2. Interrupted breathing or cog-wheel respiration; 3. Prolonged expiration; 4. Increased fremitus, in an abnormal place; 5. Rales. It is claimed by some authors that rales do not belong to early tuberculosis.

Heart.—Inspection has been mentioned above, but we look further for displacement of the "apex-beat" (fluid or adhesions). Palpation is made for precordial bulging, pulsations and thrills, and to feel if the apex beat is localized, diffuse or wavy, and its extent. Percussion and auscultation are carefully employed and their findings secured. The radial pulse are examined as to equality, regularity, force, rythm, volume, tentation and rate. The blood-pressure is taken, its systolic and diastolic readings recorded. A hypo-tension is often encountered in the tuberculous individual.

Abdomen.—This portion of the body affords few findings in pulmonary tuberculosis, except when secondary changes are present such as enteritis, peritonitis and inflammatory changes of the various solid viscera. All intra-abdominal organs, however, should be inspected, palpated and percussed to the degree attainable. The testicles and epididymis are to be inspected and palpated for any thickening or enlargement that may be present. Some observers claim that hydrocele is more often encountered in the tubercular than in other patients.

Skin Glands and Extremities.—It is a recognized fact that tuberculosis manifests itself comparatively early by nutritional disturbances and the skin evidences this, early. The condition

with regard to color, scars, pigmentations and dilated veins should be noted. Plainly visible bluish net-work of anastomosing veins are seen oftener in the consumptive than in health. The cervical, axillary and inguinal glands are palpated to ascertain if enlarged, and their size determined. Examination is made of the finger nails for nutritional disturbance, and the finger ends for clubbing. The hands and feet are examined for œdema or swelling. The station, gait and reflexes are tested. The joints are searched for any abnormalities in either size, shape or mobility.

Laboratory.—Sputum, urine and blood analysis are indispensable and are to be employed in every instance. The technique of sputum analysis is described in three stages. 1. The direct smear. 2. The air dried smear. 3. The in antiformin digestion.

(1) The exudate is smeared very thin by the means of two glass slides. One is numbered 2 and set aside. Number one is fixed in the flame, evenly covered by carbol fuchsin and stained by steaming slowly over the flame for one minute, decolorize with a solution of fifty cc alcohol, fifty cc acetone and three cc nitric acid, washed and counter stained with methylene blue and searched. A mechanical stage facilitates the examination.

(2) If a careful search of from thirty to sixty minutes does not reveal the origin of the trouble, slide number 2, after exposure to the air for ten or twelve hours (dissolving the fat from the capsule of the organism, which in a few instances makes the germ non-acid-fast), is stained as just described, and searched.

(3) If there is still doubt the third step or the antiformin method is used. The sputum specimen, one to two drams, is mixed with ten cc of a twenty per cent antiformin solution in a sterile test tube, which is shaken at intervals for thirty minutes, centrifuged, washed, collected, air-dried, stained and examined in the usual manner. Repeated examinations are oftentimes required to prove the presence or absence of the bacillus. The Grafke scale, for estimating the number of tubercule bacilli, is of some prognostic value.

The diazo and urochromogen urinary tests are claimed to have diagnostic and prognostic value (Karl Schaeffle, J. A. M. A., Vol. LXIII). I have been using the urochromogen test for over a year and a half and find that it coincides with the clinical findings. The technique is simple. (Dilute one-third test tube of urine with twice its volume of tap-water, use one-half as control, into the other one-half test tube drop one to three drops of a 1-1000 solution of potassium permanganate. A canary yellow color means a positive reaction.)

The blood is examined for anemia, a frequent

condition in tuberculosis. The examining of the blood for tubercule bacilli is tedious and not reliable.

Fecal analysis (microscopic) in unexplainable diarrhoea and in the child under six years, (swallowed sputum) is demanded.

Roentography is of confirming value in portraying calcareous glands and deposits, diaphragmatic retraction and bony changes with or without deformity.

Tuberculin Tests.—The eye test (Calmette) is extremely dangerous and for that reason has no place in this discussion. The Salve test (Moro) is less accurate than the cutaneous test and has no advantage over it (Forchheimer's Thera. of Int. Med. Vol. V. p. 161). The negative cutaneous (Von Pirquet) reaction, with few exceptions, is of value in ruling out tuberculosis processes at all ages. However a positive reaction as an indicator of an active tuberculosis process has a value which directly decreases as the age of the patient increases. The subcutaneous reaction is dependable and a negative reaction is of great value in excluding the disease. It is not dangerous if the contra-indications are considered. The test is oftentimes indicated when we wish to differentiate between old lesions which are causing no symptoms and active foci which are doing harm. The statement is accepted that failure to react to ten milligrammes of old tuberculin along with no physical signs are sufficient to diagnosticate the absence of tuberculosis.

With the data that a full examination will give, one seldom doubts if the patient is suffering from tuberculosis. The diagnosis should never be made alone on either the history, the physical examination or the tuberculin test. It should be based upon a careful analysis of the data secured from all these methods.

TRICHINIASIS: REPORT OF AN EPIDEMIC

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MATT WARE, M. D., New Liberty

Doctor Ware referred the following case to the University Hospital with the provisional diagnosis of trichiniasis.

Mrs. D.—Female, age 35, nationality German, occupation housework. Admitted October 27, 1914. Clin. No. 1725.

Entrance Complaint.—Pain in the limbs, weakness and loss of appetite. Family and social histories unimportant.

Past Medical.—The last pork eaten was two weeks before the onset of the present illness and consisted of sausage cakes well cooked on the surface but rare in the center.

Present Illness.—The present illness began October 11, 1914, with headache, weakness, insomnia, loss of appetite, feverishness, frequency of urination and constipation. On October 13 the lower eyelids became swollen and painful. On October 9 the posterior group of muscles of the thighs became painful but were not swollen or tender. On October 25 the hands were swollen and the forearms tender and painful on motion. On the following day the ankles and feet became swollen, painful on motion, but not tender.

October 27 physical examination by Doctor Howard. The patient appears a little pale. On careful inspection both upper and lower lids appear a little fuller than normal. The left hand was swollen on admission but not now. Both feet, ankles, and shins are moderately swollen and pit on pressure. The right biceps, left pectoral, both calves, and both popliteal spaces are somewhat tender. There are no subcutaneous nodules and no petechial hemorrhages. The heart is not enlarged. The first sound is a little blurred but there is no definite murmur. The aortic second sound is a little blurred but is not accentuated. The pulse is 80, regular and soft. The systolic blood pressure is 100 mm. of mercury. The spleen can just be felt below the costal margin and is enlarged on percussion.

During the patient's stay in the hospital the temperature ranged from 98° to 99.8° and the pulse from 80 to 90. The respirations were normal.

October 27, Blood: Hemoglobin 72 per cent (Sahli); red cells 4,180,000; white cells 10,400; D. C. eosinophiles 39 per cent; neutrophiles 35 per cent, small lymphocytes 22 per cent, transitionals 2 per cent, mast cells 2 per cent. Ten cubic centimeters were laked with three per cent acetic acid and the entire sediment examined for the larvae but none were found after a prolonged search. A piece of muscle removed from the left deltoid showed large numbers of trichinae larvae in both the fresh and

fixed specimens. In the fresh specimen a larva was seen which was definitely motile.

October 28 and 29.—The urine showed no casts or sugar but a trace of albumin was present. On October 30 blood and some pus were present. A stool examination revealed no parasites or eggs.

October 30.—The patient was dismissed in the same condition as on admission.

A note from Doctor Ware on November 11, stated that pain and muscular tenderness persisted, as well as cedema of the ankles.

The positive diagnosis in this case led to the investigation of twenty-nine others occurring in ten families under the care of Doctor Ware. Although the trichinae larvæ were in no instance isolated from these, the symptoms, the presence of an eosinophilia, and the positive diagnosis in the one case justify the diagnosis of trichiniasis. However in two of these cases the only symptom present was an eosinophilia, but for which other causes were ruled out.

Unfortunately the nature of the disease was not recognized early enough to permit of an examination of the meat supply. However three pieces of pork from as many different sources were examined microscopically but no larvæ found.

The source of the meat supply was varied. But because of the notorious custom of visiting among the people of a German settlement a common source cannot be denied. All the patients were German and ate pork. Several occasionally ate raw ham and all, stated that the sausage cakes so commonly eaten were more or less rare in the central portions.

This is the second epidemic of trichiniasis reported from this state¹. However, the clinical diagnosis of this disease is not infrequently made in certain districts representing German settlements.

The symptomatology of each case is given in tabular form below.

1. H. Albert: An Epidemic of Trichiniasis. Due to Eating Boiled Ham. Am. Jr. Med. Sc. Aug., 1910.

Case	Edema	Muscular Pain	Gastro-intestinal	Nervous	Circulatory	Remarks
I.	Eyelids, feet, ankles, hand.	Thighs, arms, hands.	Constipation, anorexia, furred tongue.	Headache, insomnia.	T. 99.8° P. 80.	W. C. 10,400. Eos. 39%. Spleen palpable. Trichinae larvæ found in deltoid muscle. Duration 31 days+.
II.	Ankles.	Arms, legs.	Diarrhoea, anorexia, furred tongue.		Sweats.	Eos. 48%. Duration 37 days. W. C. 5,600
III.			Anorexia, furred tongue.	Weakness, insomnia, malaise.		Eos 9%. Duration 7 days.

Case	Edema	Muscular Pain	Gastro-Intestinal	Nervous	Circulatory	Remarks
IV.	Eyelids,	Legs, Back.	Anorexia, furred tongue.	Headache.	T-102° P.102 Sweats.	W. C. 9,800 Eos 25% Duration 17 days.
V.						Eos 31%.
VI.			Diarrhœa, anorexia, furred tongue.	Weakness, insomnia, malaise.	Feverishness, Sweats,	W. C. 7,280 Eos 20%. Dyspnœa on slight exertion. Duration 14 days.
VII.	Eyelids,	Neck, shoulders, arms.	Constipation, anorexia, furred tongue.	Weakness, headache.	Sweats. Chilliness.	W. C. 6,000. Eos 26%. Duration 35 days.
VIII.	Eyelids, face, arms, hands, legs, feet.	Eyelids, Jaws.	Furred tongue.	Weakness, headache, insomnia.	T-99-104° P.90-120.	W. C. 13,200 Eos 36%. Myel. ½%. L. L. 1-½%. Injected con- junctivæ. Dysp- nœa on slight exertion. Legs stiff on mo- tion. Duration 21 days.
IX.	Eyelids.	Neck, arms. Face Hands	Diarrhœa, anorexia, furred tongue.	Weakness.	T-100° P. 84. Sweats.	W. C. 10,640. Hb. 60%. Eos. 49½%. Duration 37 days.
X.		Arms, legs.	Diarrhœa, furred tongue.	Weakness, headache.		W. C. 5, 200. Hb. 65%. Eos. 13%. Duration 39 days.
XI.	Eyelids, legs,	Eyelids, neck, arms, back, legs.	Diarrhœa, anorexia, furred tongue.	Weakness, insomina.	T-100.8° P. 94. Sweats.	W. C. 22,840. Eos. 65%. L. L. 3% Dyspnœa on slight exertion. Urticarial erup- tion on legs. Injected conjunc- tivæ. Duration 25 days+.
XII.	Eyelids,	Abdomen.	Diarrhœa, anorexia, furred tongue.	Weakness, headache.	T-101.4° P.108. Sweats.	W. C. 8,080. Eos. 27%. L. L. 4% Injected conjunc- tivæ. Duration 25 days.
XIII.	Eyelids,	Back.	Diarrhœa, furred tongue.	Malaise.		W. C. 6,060. Eos. 34%. L. L. 1% Duration 10 days.
XIV.		Neck, back.	Diarrhœa, furred tongue.	Weakness, malaise.	Feverishness, sweats.	Eos. 35%. L. L. 1% Duration 21 days.

Case	Edema	Muscular Pain	Gastro-Intestinal	Nervous	Circulatory	Remarks
XV.	Eyelids,		Diarrhœa, anorexia, furred tongue.	Weakness.	Feverishness.	Eos. 23%. Duration 21 days.
XVI.	Eyelids, face.		Diarrhœa, furred tongue.	Weakness.		Eos. 35%. Duration 4 days.
XVII.	Eyelids,		Diarrhœa,			Eos. 29%. Duration 4 days.
XVIII.			Diarrhœa, furred tongue.			Eos. 20%. L. L. 4? Duration 3 days.
XIX.	Eyelids, Cheeks, neck, arms, ankles, legs.	Arms, legs.	Diarrhœa, anorexia, furred tongue.	Weakness.	Feverishness, sweats.	W. C. 8,640. Eos. 41%. Spleen pal- pable. Mitral systolic mur- mur. Stiffness of legs. Duration 30 days+.
XX.	Eyelids, ankles, legs.	Legs.	Constipation, furred tongue.	Insomnia.		Eos. 40%. Duration 14 days.
XXI.			Diarrhœa, furred tongue.			Eos. 9%
XXII.	Eyelids.	Legs.	Anorexia.	Headache, malaise.	Feverishness, sweats.	Eos. 34%. L. L. 9%. Duration 7 days.
XXIII.	Face.	Back, arms, legs, diaphragm.	Diarrhœa, anorexia, nausea, vomiting, abdominal colic.	Headache, insomnia.	Feverishness, sweats.	W. C. 14,000. Eos. 40%. L. L. 3% Stiffness of gait, loss of weight. No trichinae larvae found in specimen of deltoid muscle. Duration 34 days.
XXIV.	Eyelids.	Legs.	Anorexia, furred tongue.		Feverishness,	Eos. 44%. Duration 5 days.
XXV.	Eyelids.	Neck, back.	Diarrhœa, anorexia, vomiting.	Weakness.	Feverishness, sweats.	Eos. 44%. Stiffness of gait. Duration 10 days.
XXVI.	Eyelids.	Neck, back.	Diarrhœa, abdominal pain, furred tongue.	Weakness, insomnia.	Feverishness, sweats.	Eos. 11%. Dura- tion 14 days.
XXVII.						Eos. 17%.

Case	Edema	Muscular Pain	Gastro-intestinal	Nervous	Circulatory	Remarks
XXVIII.	Eyelids.		Anorexia, nausea, furred tongue, Diarrhœa, sordes on teeth.	Weakness, mental dullness.	T-102° P-108.	W. C. 15,000. Eos. 58%. L. L. 2%. Epistaxis. Duration 29 days.
XXIX.	Eyelids.	Arms, knees, legs, chest.	Anorexia,	Weakness, insomnia, malaise.	T-100.6° P-102. Sweats.	W. C. 10,000. Eos. 17%. Duration 20 days.
XXX.			Diarrhœa, abdominal pain. aphthous stomatitis.	Insomnia.	T-100.6°	Eos. 9%. Urticarial rash on face. Duration 12 days.

The symptomatology of trichiniasis depends upon the site of the parasites in the body. At first they are in the lumen or tissues of the intestinal tract. Hence gastrointestinal symptoms predominate, varying from slight to severe. There are epigastric distress, eructations, nausea, vomiting, anorexia, constipation, or more frequently diarrhoea. Twenty-eight of the cases here reported possessed symptoms referable to the gastrointestinal tract. Diarrhoea was present in nineteen, being severe in six. Constipation occurred in three. Anorexia was present in fourteen.

Muscular and abdominal pains may develop early and were present in five of the above cases. About the eighth day a temporary first œdema of the face and eyelids may appear. Edema was present in twenty-one of the reported cases, the face or eyelids being so affected in all but one of these.

At about the ninth to the fourteenth day, or rarely later, predominating muscular symptoms develop and represent the period in which the embryos are wandering and attacking the muscles. These symptoms may be slight or severe. The muscles become tender, stiff, painful on motion, and firm to the touch. Eighteen of the reported cases had muscular pain, but aching or rheumatoid in character rather than severe in most cases. The gait was stiff in four cases. Respiration may become difficult and there be severe dyspnoea. Dyspnoea occurred in three cases even on slight exertion and severe pain on breathing in one.

Wasting may occur in severe cases. On about the twenty-fourth day ninety per cent of the severe cases show a secondary œdema, especially about the head. One of the reported cases lost fifteen pounds in weight. In only one was the

secondary œdema noted and here it occurred in the hand.

Pruritis, formication, herpes, a miliary or roseolous skin eruption, anemia, insomnia, mental dullness, fever, sweats, accelerated pulse and weakness are other symptoms that may be present. Weakness occurred in twenty-three of the reported cases, being a prominent symptom in sixteen. In the nine cases in which a record was made the temperature varied from 99° to 104° and the pulse from 80 to 120. Sweats were present in fourteen cases. Mental dullness occurred in one. A papular urticarial eruption was noted in two cases and labial herpes in one.

Very light cases of trichiniasis may occur. Edema and muscular pains were absent in five of the reported cases. In two cases no symptoms other than an eosinophilia were present. Since both occurred in families several members of which suffered with marked symptoms of the disease the eosinophilia has been considered to be due to trichiniasis.

Factors in establishing a diagnosis are:

1. Demonstration of the larvæ in the meat supply both microscopically and by animal experimentation. This was not accomplished in this epidemic.

2. Finding larvæ in the stools. Stools from every case were examined for intestinal parasites or their eggs but none found.

3. Finding larvæ in the patient's muscle. This was accomplished in one case.

4. The presence of an eosinophilia in the patient's blood. An eosinophilia was present in every case varying from nine to sixty-five per cent.

The following cases have been arranged in family groupings.

Family A. In this family there were six cases.

Case II. Mrs. A. A., German; female; age 43; occupation, housework; duration of symptoms 37 days.

Complaint.—October 1, 1914. Anorexia and epigastric distress.

Family, social and past medical histories unimportant.

Present Illness.—The present illness began October 1 with malaise, nausea, gaseous eructations, loss of appetite, constipation and insomnia. From October 5 to 27, the patient suffered with profuse diarrhoea of ten to twelve watery stools daily. There were also aching pains in the arms, back and legs, and chilly sensations followed by sweats. There was slight oedema of the ankles. No special muscular tenderness was present. By October 27 the number of stools had diminished to five a day. The temperature was normal. Physical examination was negative except for oedema of the ankles. A blood smear gave eosinophiles 48 per cent, neutrophiles 30 per cent, small lymphocytes 17 per cent, large mononuclears 5 per cent.

October 31.—The physical examination was completely negative. The temperature and respirations were normal but the pulse rate was one hundred and eight. The diarrhoea had ceased. Blood examination: haemoglobin 70 per cent (Sahli); white cells 5,600; eosinophiles 47 per cent, neutrophiles 25 per cent; small lymphocytes 25 per cent; large mononuclears 3 per cent.

November 1.—The urine showed no albumin or casts, and the stools no parasites, or eggs.

Result.—Recovery.

Case III. Mr. A. A.; German; male; age 51; occupation, farmer; duration of symptoms 7 days; complaint; October 4, 1914; malaise, and weakness. Family, social and past medical histories unimportant. The present illness began October 4, with malaise, weakness, loss of appetite, insomnia, and cough productive of some mucoid sputum with pain in the right side. Physical examination was negative. October 31; blood smear; eos. 9 per cent; N. 45 per cent; S. ly. 39 per cent; L. M. 6 per cent; L. ly. 1 per cent. November 4: The urine showed no albumin or casts, and the stools no parasites or eggs. **Result:** Recovery.

Case IV. W. A., German; male; age 17; occupation, farmer; duration of symptoms 17 days; complaint, October 20, 1914; weakness and slight pains in legs. Family, social and past medical histories unimportant. The present illness began October 20, with slight headache, moderate pains in the back and legs, weakness, anorexia and feverishness followed by sweating at night. October 24: Physical examination was negative except for slight puffiness of the eyelids and a furred tongue. There was no oedema elsewhere, no muscular tenderness, and no diarrhoea. The temperature was 102°, the pulse 102, the respirations 24. Blood smear: eos. 25 per cent; N. 67 per cent; Mono. 6 per cent; mast cells 2 per cent. From October 24 to November 6, the tem-

perature varied from 101° to 100°, the pulse 100, and the respirations normal. There were occasional slight pains in the arms and legs. The physical examination remained negative. October 31 blood examination: Hæmoglobin 75 per cent (Sahli); W. C. 9,800; D. C. eos. 24 per cent; N. 34 per cent; S.ly. 32 per cent; L. M. 8 per cent; mast cells 2 per cent. November 2 the urine contained neither albumin nor casts, and the stools no parasites or eggs. November 10 patient at work in the fields, but still a little weak.

Case V. E. A., German; male; age 14; occupation schoolboy. This case presented no symptoms. October 31 blood smear; D. C. eos. 31 per cent; N. 39 per cent; S.ly. 23 per cent; L. M. 7 per cent. November 4 the urine contained neither casts nor albumin, and the stool no parasites, or eggs.

Family R. In this family there were 5 cases.

Case VI. Mr. H. R., German; male; age 74; occupation retired farmer; duration of symptoms, active symptoms present after 2 weeks. Complaint: October 31, weakness, and poor appetite. Family, social, and past medical histories unimportant. The present illness began September 12, with insomnia, weakness, malaise, shortness of breath on slight exertion and diarrhoea. At night there were periods of feverishness followed by profuse sweating. The diarrhoea lasted 10 days with 10 watery stools daily. October 31: The only symptoms remaining were weakness and poor appetite. The physical examination was negative. Blood; Hb. 70 per cent (Sahli); W. C. 7,280; D. C. eos. 20 per cent; N. 56 per cent; S.ly. 21 per cent; L. M. 3 per cent. November 14 the urine showed neither casts nor albumin and the stool no parasites or eggs.

Case VII. Mr. R. R., German; male; age 23; occupation machinist; duration of symptoms 35 days; complaint, October 4, 1914; severe pain in the back of neck and shoulders; family, social and past medical histories unimportant. The present illness began October 4 with slight headache, loss of appetite, constipation, insomnia, general weakness, severe enough to prevent working for several days. There were severe paroxysmal sharp pains in the back of the neck, shoulders, and arms. The patient complained of blurred vision on stooping or lifting. October 7, the eyelids were definitely swollen and there was slight fullness over the back of the neck, but no pitting on pressure. Temperature, pulse, and respirations were normal. For two weeks there was chilliness followed by sweating at night. Up to October 26 there were pains in the neck, shoulders and extremities. October 25 there was a short attack of severe pain in the left deltoid muscle. October 31 blood; Hb. 75 per cent (Sahli); S. C. 6,000; D. C. eos. 26 per cent; N. 39 per cent; S.ly. 29 per cent; L. M. 6 per cent. November 8 the urine showed neither albumin or casts and the stools no parasites or eggs. **Result:** On November 8 the patient still feels weak.

Case VIII. Mrs. R. R., German; female; age 20;

occupation housework; duration of symptoms 21 days; complaint, October 10, 1914: headache, muscular pains, swollen eyelids; family, social and past medical histories unimportant. The present illness began October 10 with weakness, headache, swollen and very painful face and insomnia. There was pain in the occipital region and aching of the eyes. Shortness of breath on slight exertion was marked. Mastication caused pain in the masseter muscles and swallowing was painful. October 10 there was definite swelling and œdema of the face especially marked in the eyelids, both temporal regions, and at the angles of the lower jaw. These regions were tender on pressure. Biting caused pain in the muscles of the jaw. The muscles of the arms, hands, legs, and feet were firmer than normal, were stiff on active motion, and the skin of these parts was œdematous. The conjunctivæ were injected. The tongue was furred. The heart, lungs, and movements of the diaphragm appeared normal. The temperature, and respirations were normal but the pulse 90. The patient complained of severe pain in the face and eyelids for the first week. Insomnia was a feature during the first two weeks. From the 17th to the 29th the pain and œdema of the face gradually disappeared. œdema of the ankles persisted until November 10. October 17 the urine showed no casts or albumin. On the 22nd there was occasional blurring of vision. A daily temperature record from the 17th to the 29th showed an evening temperature of 104° to 99° and a morning record of 101° to 99°. The pulse varied from 120 to 96. The respirations were normal. October 21, blood. D. C. eos. 35 per cent; N. 46 per cent; Meno. 19 per cent; October 31, blood. Hb. 70 per cent (Sahli); W. C. 13,200; D. C. eos. 36 per cent; N. 34½ per cent; S.ly. 23½ per cent; L. M. 4 per cent; L. L. 1½ per cent; Myel. ½. November 8 the urine showed neither casts nor albumin, and the stools no parasites or eggs. November 8, result: recovery, except some weakness.

Case IX. Mrs. G. L., German; female; age 43 years; occupation housework; duration of symptoms 37 days; complaint; October 11, 1914. Pain in occiput, arms and legs. Family, social and past medical histories unimportant. The present illness began October 9 with weakness, anorexia, watery diarrhoea, accompanied by severe rectal pain and feverishness with sweats at night. October 11 the eyelids were swollen and the conjunctivæ injected. At night the pain in the neck and arms required an opiate. The neck and arm muscles were painful on motion, tender, and were firmer than normal. The temperature was 100°, the pulse 90 and the respirations 20. From the 11th to the 20th there were poor appetite, general aching of the muscles and one recurrence of the severe pain in the neck and arm muscles. The temperature and respirations were normal, but the pulse averaged 84. The initial diarrhoea lasted 4 days. The œdema of the eyelids remained for 2 weeks. October 20, blood smear; eos. 49½ per cent; N. 37½ per cent; Mono. 13 per cent; W. C. 7,200;

R. C. 3,650,000. October 31, blood; Hb. 60 per cent (Sahli); W. C. 10,640; D. C. eos. 15 per cent; N. 49 per cent; S.ly. 34 per cent; L. M. 3 per cent. November 8 the urine showed neither casts nor albumin and the stool no parasites or eggs. November 11 the patient experienced severe pain in the left hand and back. The eyelids, left face, and left hand were slightly puffy. For a period of ten hours on the 12th there were diffuse abdominal cramps, with one attack of vomiting. November 15, result: recovery.

Case X. Mrs. H. R., German; female; age 64; occupation housework; duration of symptoms about thirty-nine days; complaint October 29, pain in legs and arms; family, social and past medical histories unimportant. Present illness began September 20 with diarrhoea of six to eight stools daily, headache and muscular weakness. These symptoms lasted for four days. Up to October 29 there were occasional muscular pains in arms and legs. October 31, blood; Hb. 65 per cent (Sahli); W. C. 5,200; D. C. eos. 13 per cent; N. 57 per cent; S.ly. 26 per cent; L. M. 4 per cent. November 8 the urine showed neither albumin nor casts and the stools no parasites or eggs.

Family S.:

Case XI. Mr. W. S., German; male; age 30; occupation farmer; duration of symptoms, symptoms present after twenty-five days; complaint October 18 general pains and weakness; family, social and past medical histories unimportant; present illness began October 6 with weakness, aching in legs and back, loss of appetite, constipation and insomnia. Feverishness with sweats were present for the next ten days. On October 9 the eyelids became swollen. A diarrhoea of eight or ten watery stools daily commenced, lasting for a period of two weeks. October 16 and 17 the legs were slightly swollen and covered with an itching, urticarial eruption. October 10 the pains in the eyes, neck, back, arms and legs became severe, and there was pain on deep breathing in the lower right chest. October 8 there was some puffiness of the eyes. The temperature was 100.8°, pulse 94, the respirations 20. The patient was very weak and short of breath on slight exertion, which condition was still present on the 25th. October 31 there was slight puffiness of the eyes, a catarrhal conjunctivitis and a herpetic eruption on the margins of the lips. The tongue was furred and the breath foul. October 31, blood; Hb. 78 per cent (Sahli); W. C. 22,840; D. C. eos. 65 per cent; N. 19 per cent; S.ly. 9 per cent; L. M. 4 per cent; L. L. 3 per cent. November 1 urine showed neither casts nor albumin and the stools no parasites or eggs. November 2 patient is working but still weak.

Family H. S. There were two cases in this family.

Case XII. Mrs. H. S., German; female; age 35; occupation housework; duration of symptoms twenty-five days; complaint October 10, 1914, headache and general aching; family, social and past medical histories unimportant. Present illness began October 6 with headache, aching, loss of appetite, nausea,

weakness and constipation. After a mild cathartic a profuse watery diarrhoea of eight or ten stools daily, occurred lasting four days. At night aching abdominal pain on the left side prevented rest. October 10 eyelids were swollen the conjunctivæ injected, the tongue furred and the breath foul. Temperature was 101.4°, the pulse 108 and the respirations 24. There was no muscular tenderness, even in the abdomen, although the pain remained. October 17, since the 10th there had been weakness and general aching and feverishness with sweats. November 1, blood; Hb. 75 per cent (Sahli); W. C. 8,080; D. C. eos. 27 per cent; N. 40 per cent; S.ly. 26 per cent; L. M. 3 per cent; L. L. 4 per cent. November 8 the urine showed neither casts nor albumin and the stools no parasites or eggs. Result: recovery.

Case XIII. Mr. H. S., German; male; age 34; occupation farmer; duration of symptoms ten days; family, social and past medical histories unimportant. The present illness began October 10 with malaise, pain in the back and a watery diarrhoea lasting four days. October 17 swelling of the eyes. November 1 there was some puffiness of the eyelids. Blood; Hb. 80 per cent (Sahli); W. C. 6,060; D. C. eos. 34 per cent; N. 36 per cent; S.ly. 25 per cent; L. M. 4 per cent; L. L. 1 per cent. Result: recovery.

Family V.: There were eight cases in this family.

Case XIV. Mr. O. V., German; male; age 31; occupation farmer; duration of symptoms three weeks. The present illness began October 10 with malaise, weakness, insomnia, feverishness and sweats. There was diarrhoea with diffuse abdominal pain. Later pain occurred in the neck and back. The most prominent symptom was weakness. November 4, blood; D. C. eos. 35 per cent; N. 46 per cent; S.ly. 17 per cent; L. M. 1 per cent; L. L. 1 per cent.

Case XV. V. V., German; female; age 6; school-girl; duration of symptoms three weeks; family, social and past medical histories unimportant. Present illness began October 10 with swollen eyelids, loss of appetite, furred tongue, feverishness and a diarrhoea of five stools daily. The swelling of the eyes disappeared gradually over the period of three weeks. The diarrhoea lasted for five days. October 14 there was muscular soreness and weakness. November 4, blood; D. C. eos. 23 per cent; N. 48 per cent; S.ly. 8 per cent; L. M. 4 per cent. The urine showed no casts nor albumin and the stools no parasites or eggs. Result: recovery.

Case XVI. L. V., German; male; age 6; school-boy; duration of symptoms four days; family, social and past medical histories unimportant. The present illness began October 12 with swollen face and eyelids, muscular aching, weakness, furred tongue and a mild diarrhoea. November 4, blood; D. C. eos. 35 per cent; N. 32 per cent; S.ly. 28 per cent; L. M. 4 per cent; mast cells 1 per cent. November 17 the urine showed no albumin nor casts and the stools no eggs or parasites. Result: recovery.

Case XVII. N. V., German; female; age 4; dura-

tion of symptoms four days; present illness began October 12 with puffiness of the eyelids and diarrhoea. November 4, blood; D. C. eos. 29 per cent; N. 36; S.ly. 33 per cent; L. M. 2 per cent; November 17 the stools showed no eggs or parasites and the urine no albumin or casts. Result: recovery.

Case XVIII. R. V., German; male; age 2; duration three days. Present illness began October 12 with diarrhoea and furred tongue. November 4, blood; D. C. eos. 20 per cent; N. 28; S.ly. 46 per cent; L. M. 2 per cent; L. L. 4 per cent. November 17 stool contained no eggs or parasites and the urine no casts or albumin. Result: recovery.

Case XIX. Mrs. O. V., German; female; age 31; occupation housework; duration of symptoms, symptoms present after 30 days. Family, social and past medical histories unimportant. Complaint November 3, 1914 pain in arms and legs. The present illness began October 17 with vertigo, weakness, loss of appetite, furred tongue, watery diarrhoea, swelling of the eyes, cheeks and back of neck with stiffness of the neck. There was feverishness and sweats, especially at night. The diarrhoea lasted four days and the swelling of the eyes a week. During this period there was shortness of breath on slight exertion. October 23 there occurred swelling and pain in the arms and legs which were stiff, causing some difficulty of movement. November 3 there was some swelling of the eyelids and ankles. The spleen was palpable 1 cm. below the left costal margin. There was a soft systolic murmur heard best at the apex of the heart and transmitted to the axilla. The heart measured 12 cms. to the left of the midsternal line. Temperature, pulse and respirations were normal. Blood; W. C. 8,600; D. C. eos. 41 per cent; N. 26 per cent; S.ly. 28 per cent; L. M. 5 per cent. November 17 spleen now at costal margin. The urine showed no casts or albumin and the stools no parasites or eggs.

Case XX. Mrs. H. V., German; female; age 68; occupation housework; duration of symptoms fourteen days; family, social and past medical histories unimportant. Present illness began October 24 with swelling of the eyelids, insomnia, constipation and some abdominal pain. October 28 there were aching pains in the legs and the gait was stiff. The ankles and legs were slightly edematous. November 4, Blood; D. C. eos. 40 per cent; N. 48 per cent; S.ly. 8 per cent; L. M. 4 per cent. November 6 the urine showed no casts or albumin and the stool no parasites or eggs. Result: recovery.

Case XXI. Mr. H. V., German; male; age 73; occupation farmer; duration of symptoms indefinite. Present illness consisted of diarrhoea and aching muscular pains. November 4, blood; D. C. eos. 9 per cent; N. 55 per cent; S.ly. 28 per cent; L. M. 7 per cent; L. L. 1 per cent. Result: recovery.

Family D. There were 6 cases in this family.

Case XXII. A. D., German; male; age 8; school-boy; duration of illness seven days; family, social, past medical histories unimportant. Present symp-

toms began October 6, 1914 with malaise, loss of appetite, headache, pain in the legs and swelling of the eyes, which later persisted a week. Throughout the illness there were feverishness and sweating. November 4, blood; D. C. eos. 34 per cent; N. 33 per cent; S.ly. 15 per cent; L. M. 9 per cent; L. L. 9 per cent. The urine showed no albumin or casts and the stools were negative for parasites or eggs. Result: recovery.

Case XXIII. Mr. H. D., German; male; age 31; occupation farmer; duration of symptoms thirty-four days; complaint November 1, 1914, weakness and muscular pains; family, social and past medical histories unimportant. The present illness began October 7 with chilliness, headache lasting continuously for two weeks, weakness sufficient to prevent working, loss of appetite and nausea. Edema of the face and insomnia were marked. October 10 a watery diarrhoea of four or five stools daily accompanied by diffuse, severe abdominal colic and persisting ten days. For the next three weeks there were feverishness and sweats at night. October 13 pains occurred in the back, arms and legs. The gait was stiff. There was frequent, burning urination for the first two weeks. During this period the patient lost fifteen pounds in weight. November 1 a piece of muscle removed from the left deltoid showed no trichinae. Blood; Hb. 75 per cent (Sahli); W. C. 14,000; D. C. eos. 40 per cent; N. 36 per cent; S.ly. 16 per cent; L. M. 3 per cent; mast cells 2 per cent; L. L. 3 per cent. The urine showed no casts or albumin and the stools no parasites or eggs. November 6 the patient was seized with severe colicky pain in the epigastrium, attacks of vomiting and a watery diarrhoea for two days. Breathing became excruciatingly painful at the lower border of the ribs which condition lasted one hour. Result: recovery.

Case XXIV. E. D., German; female; age 6; school girl; duration five days; family, social and past medical histories unimportant. The present illness began October 10, 1914, with pain in the legs, loss of appetite, feverishness and swelling of the eyelids. November 4, blood; eos. 44 per cent; N. 17 per cent; S.ly. 36 per cent; L. M. 3 per cent. The urine showed no albumin or casts and the stools no parasites or eggs. Result: recovery.

Case XXV. L. D., German; male; age 4; duration 10 days; family, social, past medical history unimportant. Present illness began October 10, 1914 with weakness, loss of appetite, watery diarrhoea, pain in the abdomen and swelling of the eyelids. The diarrhoea continued four to five stools daily for four days. The swelling of the eyelids disappeared in three days. For the first week the gait was peculiarly stiff. There was chilliness followed by feverishness and sweats and occasional vomiting. November 4, blood; D. C. eos. 44 per cent; N. 17 per cent; S.ly. 36 per cent; L. M. 3 per cent. The urine showed no albumin or casts and the stools no parasites or eggs. Result: recovery.

Case XXVI. Mrs. H. D., German; female; age

31; occupation housework; duration two weeks; family, social and past medical histories unimportant. Present illness began October 11, 1914 with malaise, weakness, insomnia, feverishness with sweats, diarrhoea with abdominal pain. Furred tongue and swelling of the eyes. Later pains occurred in the neck and back. November 4, blood; D. C. eos. 11 per cent; N. 44 per cent; S.ly. 45 per cent. The urine showed no albumin or casts and the stools no parasites or eggs. Result: recovery.

Case XXVII. M. D., German; female; age 2. No symptoms were present at any time. November 4, 1914, blood; D. C. eos. 17 per cent; N. 14 per cent; S.ly. 65 per cent; L. M. 4 per cent. November 10 the urine showed no casts or albumin and the stools no parasites or eggs. This child is fed meat.

Family J.

Case XXVIII. Mr. H. J., German; male; age 71; occupation farmer; duration of symptoms twenty-nine days; family, social and past medical histories unimportant; complaint October 17, 1914 weakness and feverishness. The present illness began October 12 with weakness, loss of appetite, nausea and diarrhoea with four stools daily. October 17 epistaxis occurred. There was puffiness of the eyelids. Gurgling in the right iliac fossa. Furred tongue. Mental dullness, questions being answered very slowly. The temperature 102°, pulse 108 and the respirations 22. The next day mental dullness was more marked, the teeth were covered sordes, but the spleen was not palpable. The diarrhoea had ceased. October 19 mental dullness persists. Blood; D. C. 32 per cent; N. 57 per cent; Mono. 11 per cent. A four hourly temperature chart from October 19 to 25 gave a variation of 100 to 102° with a pulse of 75 to 80. The temperature dropped to normal within the next two days. October 31 there was slight puffiness of the eyelids and some weakness; blood; Hb. 75 per cent (Sahli); W. C. 15,000; D. C. eos. 58 per cent; N. 20 per cent; S.ly. 16 per cent; L. M. 4 per cent; L. L. 2 per cent. The urine showed neither casts nor albumin and the stools no parasites or eggs. Result: recovery.

Case XXIX. Mrs. P. J., German; female; age 52; occupation housework; duration twenty days family, social and past medical histories unimportant; complaint October 28, 1914 weakness and general pain. The present illness began October 21 with malaise, weakness, loss of appetite, insomnia and chilliness with sweating at night. October 22, 1914 the eyelids were swollen and there were pains in the arms, knees, legs and chest. October 28 there was slight puffiness of the eyelids and moderate pain in the arms, knees and legs. The temperature was 100.6°, the pulse 102 and the respiration 20. Blood; D. C. eos. 17 per cent; N. 45 per cent; S. L. 25 per cent; L. M. 12 per cent; mast cells 1 per cent. October 31 there was slight puffiness of the eyelids and complaint of weakness. Blood; Hb. 85 per cent (Sahli); W. C. 10,000; D. C. eos. 6 per cent; M. 50 per cent; S.ly. 41 per cent; L. M. 3 per cent. The urine

showed no casts or albumin and the stools no parasites or eggs.

Family G.

Case XXX. Baby, M. G., German; female; age 3; duration twelve days; family, social and past medical histories unimportant. The present illness began October 19, 1914 with diarrhoea, abdominal pain, sore mouth and insomnia. October 26 there was an aphthous stomatitis, furred tongue, diarrhoea and the tonsils were somewhat enlarged and reddened. October 27, blood; D. C. eos. 9 per cent; N. 51 per cent; S.ly. 34 per cent; L. M. 6 per cent. There was profuse urticarial rash on the face. Temperature 100.6°. October 30 rash has disappeared. The stools showed no parasites or eggs. Result: recovery. This child was fed meat.

ACCIDENTAL TRAUMA TO THE ABDOMINAL VISCERA, REQUIRING IMMEDIATE SECTION*

(With Citation of Unusual Cases)

CARL E. CONN, Battle Creek

When invited by the chairman of the surgical section to prepare a paper for today's program, it occurred to me that Traumatic Injuries to the Abdominal Viscera, requiring immediate section, should be of sufficient practical interest to justify its presentation, and I will confine it largely to the description of what seems to me to be a very unusual case.

The manner in which abdominal injuries are received, such as from the kick of animals, the crushing injuries incident to railway and automobile accidents, the bumping of head to abdomen in children and football men, while at play, the occasional gunshot wound, may all be mentioned in this connection.

It remains, however, that the cause of such injuries need not be emphasized so much, as the necessity for an early, or I might better say, an immediate diagnosis of just what has occurred.

Given, then, an injury to the abdomen, it is of the utmost importance that the physician, who is practically always a general practitioner, (the first aid, if you please to so call it), realize that the important question of diagnosis, is up to him.

If he assumes the watchful waiting policy, now so common in national affairs, he may sacrifice on the altar of such a policy the life of some patient, who might have been saved by a carefully made diagnosis; the conclusion would have lead to an early section, and repair of the damaged viscera.

Errors in the proper estimation of injury, the so-called "internal injuries" are naturally more common in the rural district than in the surgical

centers, where the population is large and industrial workers are more numerous.

The propriety of subjecting an injured patient of this type to surgical interference, should depend upon three things:

The general condition of the patient.

Severe internal hemorrhages.

Wounds or rupture of the stomach or intestines of sufficient size to allow extravasation of their contents.

It is naturally a matter of fine judgment to decide when to operate and when not to operate, and this all absorbing question can best be decided by experienced surgeons, engaged largely in abdominal work.

In the first instance, it would be poor surgery indeed, to subject a patient, who was pulseless and with every other indication of approaching death, to an operation. While on the other hand, severe internal hemorrhages, coming from the vascular organs of the abdomen, the liver and the spleen or from the large vessels of the omentum or mesentery or with visceral tears of the gastrointestinal canal, of sufficient size to permit of leakage, if not cared for surgically, are with few exceptions, fatal, and therefore, call for prompt arrest of hemorrhage, repair, and where contamination of the peritoneal cavity has taken place, drainage in all cases.

I recall several cases which have come under my observation; one of a child three years of age, who, while riding on a heavily loaded wagon, fell under the wheels and was run over, the wheel passing over the lower abdomen.

A physician was called and upon examination, noted that the child was pale, had a rapid pulse, and that the abdomen was becoming distended. Fearing the injury was serious, he brought the patient to the hospital at once.

A diagnosis of active hemorrhage was made, the abdomen was promptly opened and the peritoneal cavity found full of blood. A large mesenteric vessel was found open and ligated. The appendix was lacerated to an extent that the mucosa protuded through a tear in its wall.

This was removed and fearing contamination from this source, it was thought advisable to drain. After closing the wound a subcutaneous infusion of one pint of normal salt solution was given and an application of dry heat was made to the extremities. This little fellow made a rather tedious recovery; but now after a period of eighteen months is in excellent health.

A more unusual case and one, which I believe will be of interest, was that of a young German, age 18, a farm lad, who mounted to the loft of a

*Read by Title before the Sioux City meeting of the Iowa State Medical Society, May, 1914.

rather high barn, and after throwing down the hay, allowed his fork to go down as well. He started down the ladder and when about seven feet from the bottom jumped, not on the hay as he had calculated; but directly on the handle of the fork.

Upon inquiry, I learned that the boy had been empaneled upon the fork handle, that the father had extracted it from a depth of about ten inches and when it was removed, a coil of the intestine followed it out. The peculiar part of the accident was that the handle, which was polished from usage, penetrated the clothing and abdomen, directly through the rectum.

After carrying the boy to the house, the father annointed this coil with goose grease, a very common remedy in German families, and returned it to the rectum.

Upon examination there was not the least sign of external violence, nor was the anus even lacerated. I made a rectal examination; but was unable with the examining finger to detect a rent in the gut. The severe pain radiating in character with tense abdominal walls, together with the history of the protruding coil of intestine, suggested at once, that the bowel was ruptured farther up.

The patient was removed to the hospital, some five miles distant, where an abdominal section was made, about two hours elapsing between the accident and the operation.

Upon opening the abdomen, fecal matter mixed with blood welled up into the wound and the peritoneal cavity was found completely soiled. The rent in the bowel was discovered and partially protruding into it, we found the well oiled coil of small intestine, which the father had returned; but neglected to remove the hay, small pieces of which were intimately imbedded into its wall.

The hemorrhage, which was not alarming, was promptly controlled, the rupture, which was about three and one-half inches in length was repaired by suture. This was followed by a thorough cleansing of the peritoneal cavity by means of many gallons of warm normal salt solution. Drainage was established by placing two large tubes into the most dependent portions of the pelvis, and the wound closed. A tube was inserted into the rectum to facilitate the passage of gas.

The patient was placed in Fowler's position for a few days and made a complete and un-interrupted recovery.

In conclusion, I wish to say that if I have in the least impressed upon the minds of any one

here today, the importance of immediate surgical interference in the type of cases described, or if my paper will elicit a discussion of the subject by surgeons of riper experience than my own, I shall feel that my time has been well spent.

— THERAPEUTICS* —

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There is no department of medicine wherein the average physician is so deficient as that of therapeutics. He studies faithfully the newest lines of thought on sanitation and disease, works diligently on his diagnosis, and neglects his pharmaceuticals.

Knowing what a small percentage of diagnoses are correct, what per cent of these receive proper medication, especially when we realize the vast number of useless nostrums placed on the market by the rapidly increasing number of drug houses, distributed by the ever present salesman and purchased indiscriminately by physicians. All samples left by these zealous drug venders should be thrown into the waste basket.

No general practitioner is capable of determining the merits of various preparations left in his office. He is the tool used by the drug houses to get their preparations before the public. A want list should be carefully kept by those who dispense, and nothing purchased except that has been thoroughly tried out in numerous clinics and accepted as standard.

There is so much buying without due consideration that the argument in favor of prescription writing is becoming a very potent factor in medical practice. It is folly for a man practicing general medicine, as nearly all of us are, to attempt to improve on the treatment laid down in our modern text books of internal medicine and therapeutics. These books should be followed to the letter. If one will take an inventory of the various preparations he is dispensing or prescribing he would be painfully surprised. Only a few drugs are necessary and the average physician refuses to recognize this fact. These few should be studied most carefully and frequently reviewed. A new text-book on therapeutics should be purchased each year or two. If this were done we would not see adrenalin and ergot used quite so often where glonoin and sodium nitrite are indicated.

The article on therapeutics in the Journal of the American Medical Association, should always be read each week. This affords one the latest information on the drugs he is using. A patient usually comes in for medicine. The

*Read before the Austin Flint-Cedar Valley Medical Association.

doctor sees that he gets it. The prescription is the crux of the transaction. Is the average doctor as familiar with what he prescribes as he should be?

Our studies run too much to other branches, and not enough to pharmaceuticals. We do not prescribe as intelligently as we attempt to diagnose.

The most overused today of all drugs is strychnine. It does not raise blood-pressure, and especially in acute heart failure, should not be used in too large doses. One-thirtieth of a grain every four to six hours is enough and after two or three doses should be reduced to one-sixtieth of a grain. Camphor in oil should be used in the place of strychnine much more frequently. The American profession has been slow to recognize its usefulness.

The tincture of digitalis is the best preparation of that drug to be used in nearly all cases. It should be made from physiologically tested leaves and should not be made up from the fluid extract. The average commercial digitalis is not dependable. Hypodermic tablets of one-fiftieth and one-hundredth grain digitalin are practically useless, and the German digitalinum in one-twentieth to one-quarter grain doses is more reliable.

The tincture of strophanthus should be used about twice a day, fifteen drops at a time, hypodermically, and its action watched closely.

The prescribing of hypophosphites is a discredit to the profession.

One egg furnishes more of these salts and in better form than six ounces of the nostrum that may be dropped from the next pharmacopea. Alcohol is not a stimulant and should not be used as such. This fact is very reluctantly accepted by many physicians.

"Moderate amounts of alcohol undergo combustion in the body, spare to a certain extent the fats and protids, supply energy to the tissues and serve to maintain the body weight *when for any reason the diet is insufficient*. To this extent alcohol is a food."

It should be given as whiskey and only in 1/2 teaspoonful doses once every three hours. Hexamethylenamine should not be given to sterilize a bladder containing decomposed urine. It is inert in an alkaline cavity.

A fresh preparation of ergot should only be used, not over a few months old and preferably the fluid extract. A fresh aqueous solution of the extract filtered, may be used hypodermically in urgent cases. It should be injected deep into the muscles. Ergotin is unreliable. Most of the preparations of ergot purchased on the market are not dependable, and many are inert.

The therapeutic possibilities of vaccine therapy have been exaggerated.

The promiscuous use of the stock bacterial vaccines of commerce in the treatment of acute and chronic infections is an irrational procedure.

Ready mixed commercial vaccines should be abolished.

"Under ideal conditions vaccine therapy should be used only by those physicians whose training in the several fields of bacteriology, immunology and practical medicine, has qualified them to pursue the treatment with scientific consideration and caution." A mixed vaccine must be made by the physician himself from pure strains. He must discriminate as to what strains are necessary for the particular infection to be treated.

How many of us can do this?

We should avoid the numerous proprietary preparations and special formulas gotten out by the manufacturing chemists and exploited with our assistance. We hardly realize how far we are wandering from rational medicine when we prescribe such nostrums as, ox gall preparations, neutralizing cordials, *tono sumbul*, hæmoglobin and arsenic, Waterbury's comp. and countless other preparations never mentioned in our textbooks. Let us stick closer to simple clean medicine.

MANUFACTURE OF SALVARSAN IN CANADA

According to the Canadian Medical Association Journal, the Commissioner of Patents of Ottawa has granted a license to Mr. E. Neil Macallum and Mr. Newton Candee, synthetic chemists, to form a company to manufacture salvarsan under the supervision of the University of Toronto, the product to bear the name "Diarsenol." The German synthetic product salvarsan as is well known—was patented both in the United States and Canada, and as the United States sustains neutral relations with Germany, we are entirely dependent on that country for our supply, which the embargo has practically cut off. England being at war with Germany, the patent is declared to be in abeyance in England and its colonies.

Prof. McPhedran, head of the Medical Department, and Prof. J. J. Mackenzie, the head of the Department of Pathology, will test out biologically and standardize the salvarsan in the pathological department of the University of Toronto before it is administered to patients. The price fixed by the Commissioner of Patents is slightly in advance of the wholesale price of last August. "So soon as the supply of "Diarsenol" meets the present demand, the company will undertake to place neosalvarsan also on the market."

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HOSPITAL MANAGEMENT

How public or quasi-public hospitals should be managed with reference to the medical profession, may be answered in several different ways, mainly according to the interest of the parties concerned. There are certain propositions which may be regarded as fundamental and should be taken into account at the outset of every discussion of this subject whether the hospital be an "open hospital" or a "closed hospital."

It may safely be assumed that a hospital under the management, in the great majority of instances, of an untrained board, measure the success of the institution by the number of cases received or by the financial returns, taking little account of the character of the work. In a rather small proportion the board realizing their own lack of technical knowledge, place the direct management of the hospital in the hands of a trained superintendent of broad conception of the duties and obligations of a hospital, so it may be assumed that a hospital uninfluenced by its staff, may reach any grade of excellence from a nursing home to an efficient hospital. The influence of the staff may be in the direction of unselfishly building up high ideals of hospital efficiency, or just the reverse. It has generally been observed that the efficiency of a hospital dropped to the level of the poorest work unless the institution is guided by strong and efficient hands. The danger of impaired hospital efficiency is much greater in the quasi-public hospitals than in municipal or state hospitals. The private hospi-

tal with a public function may be indifferent to public sentiment, or resent public criticism, and except in-so-far as its finances are concerned, ignore the public. Just the reverse is true in state or municipal hospitals, and notwithstanding the dangers of political interference, the chances of efficiency are much greater where the public have a hearing. In the opinion of the writer the time is not far distant when the state or municipality will control the more important hospitals in centers of population.

The relation of the staff to the hospital is a vexed question. The accepted plan of the "closed hospitals" in the east is resented in the west. The controversies growing out of the organization of the great municipal hospital in Cincinnati and the University Hospital of Louisville, are evidences of this fact. Even in Iowa we may not altogether escape danger in this respect. It cannot be doubted that a carefully selected official staff will give better results than an open hospital which admits all physicians and surgeons in good standing. It is probably granted that a limited staff should be appointed, but how? Those that are "in" are satisfied with the present method; those that are "out" favor some other plan. The indications are that a legally constituted board will make the selection; if not of the best men always, the selection will be legal and in time will be accepted. In our University Hospital the course of action seems clear. The control of the hospital is in the hands of a legally constituted board which unquestionably has the power of making the selection of a staff, and logically from the members of the university faculty, each head of department being chief of his respective division. The relation of his assistants to the hospital should be determined on consultation of heads of departments with the board. We are clearly of the opinion that if after the public clinical material is taken care of there are vacant beds, private patients may be admitted under the direction of the heads of departments at a rate not less than the usual charge of outside hospitals, as a matter of justice to the state and fairness to competing hospitals. That this will not meet the approval of interested outside practitioners we can easily understand, but we can see no remedy for it. If the restrictions are removed in the interests of one or more very worthy persons, others should have the same privileges and the ultimate results would be dangerous to the discipline of the hospital, and to its efficiency, and no end of trouble. These considerations should apply only to the university hospital. The university could not rightly un-

dertake to control other hospitals, and should not in any way throw restraints around the action of other hospitals in their selection of staff or in their relations to practitioners not members of the university faculty. We can see certain advantages to the university in permitting the heads of departments using unoccupied beds for private patients as a means of increasing the clinical facilities for teaching purposes, and also that it gives the faculty a greater opportunity to increase their own individual experiences and better fit them for their duties as teachers. There are undoubtedly opportunities for an abuse of the privileges granted, but there ought to be no serious difficulty in the way of correcting them, and if there are men who have not the power of overcoming temptation they should be placed beyond its reach.

PROPHYLACTIC MEDICAL EXAMINATIONS

The Kentucky Medical Journal for February 1, 1915, contains some observations presented by Fisk that are suggestive of the future work of the trained practitioner of medicine. From day to day we have seen the scope of medical treatment by the use of drugs become narrower until we have begun to wonder just what the function of the doctor of the future would be. We have on several occasions had visions presented to us of the man of affairs appearing before his medical adviser for an examination with reference to watching for the appearance of any change in his vital organs that might tend to shorten his life or in the near future lessen his usefulness. It appears that something over a year ago a Life Extension Institute was established in New York City for the purpose of making special examinations with the view of recognizing in its earliest stages any disease changes that might shorten life. These examinations would extend to a consideration of the habits and personal environmental hygiene, thus supplying individuals and corporations with data that might be extremely valuable. The institute after making these examinations, report to the applicant, and if the patient desires it, to his family physician. No diagnosis is made and no treatment advised, simply places within the reach of the family physician information that he may not have the means of acquiring so far as laboratory methods are concerned.

Reports were made upon the examination of 696 employes of the Department of Health, New York City, ages varying from 15 to 74 years, and the status of the applicants ranged from laborers to high executive officers. Thirty-three and one-

third per cent showed evidence of a need of medical advice, and 24 6/10 per cent in actual need of treatment. This was taken to represent the probable health of any city population, and that competent advice and treatment really instituted would be a saving of life in some cases, and prolonging it in others. These observations are suggestive of the benefits that might arise from repeated examinations of persons of cities and villages and even of the country people that have reached that stage of development which enables them to appreciate the difference between anticipating disease and the cure of disease. Up to the present time in the vast majority of instances, people have given very little attention to their bodily conditions until they actually recognize some symptoms of disease.

THE PRESENCE OF CONTINUED HIGH TEMPERATURE IN MALIGNANT TUMORS

The continued high temperature in malignant tumors is a symptom noted by Dr. John Phillips, of the Western Reserve University, in a number of patients treated at Lakeside Hospital, and published in the American Journal of Medical Sciences for February, 1915. Some of these patients were treated by Dr. Crile. The location and involvement of the tumors are carefully described and all the symptoms analyzed. The conclusion reached as to the cause of the persistent temperature is "that because of the constant degeneration of the tumor tissues, products of autolysis are formed which enter the circulation in small quantities, producing systematic disturbances such as fever."

VERONAL POISONING

Dr. Edward W. Lazell, reports in the Denver Medical Times a fatal case of veronal poisoning. It appears in this case that the patient was using veronal tablets on her own account, and the circumstances were such that it was impossible to determine the size of the dose or the frequency of repetition. Dr. Lazell in connection with the case, makes some valuable observations. He calls attention to the fact that veronal is very insoluble except in hot water and milk, and that several doses may accumulate in the stomach and under favorable circumstances are rapidly dissolved and absorbed, giving the concentrated effect of a fatal dose. Dr. Petty in his work on "Narcotic Drug Diseases" speaks of veronal as a "most dependable" drug in doses of 10 grains, but objects to it on account of the lassitude and depression following its use. Dr. Lazell does not look upon

depression of the respiratory center as the cause of death, but some profound effect on the blood, either an acidosis or the formation of methemoglobin by causing a poverty of oxygen in the tissues, has prevented the normal formation of carbon-dioxid, and that respiratory failure results from the lack of carbon-dioxid—the normal respiratory stimulant—from reaching the medulla. The suggestion follows that when veronal is administered, care should be observed in providing for the ready solubility and absorption rather than a repetition of the dose.

WASTE AND OVER-EATING

The cost of foods has become a burning question everywhere. We have so long gratified the feeling of our stomachs that a change is not altogether welcome, and as long as our kind of food holds out we shall probably continue our wasteful method.

In some of the countries of Europe free choice of food on the part of the common people seems to be nearing an end. The British Medical Journal in an editorial in the January 30th number, offers some suggestions on the food question which we reproduce in part.

It is announced officially that a cabinet committee with the premier in the chair, is considering the rise in prices of foodstuffs. We would point out, to start with, that wealth buys nothing but flavour—things to tickle the palate. The very cheapest foods, wisely chosen, have all the physiological value of the dearest. The cheapest American cheese is as nutritive as Stilton or Roquefort, the herring is as nourishing as salmon, the flank or shin of beef as the sirloin, margarine as butter, starch as arrow-root, cabbage as asparagus. Moreover, by good cooking cheap food can be made as tasty and appetizing as the dearest, and no less good a stimulant of the digestive juices.

One of the most deplorable things in the organization of modern society is that the factory has divorced man and woman from the home life; the old arts and comforts of home have vanished in the last hundred years. The other day we saw a "white pudding," an old Scottish dish, now forgotten, made of oatmeal and dripping, flavored with herbs and onion, stuffed into a sausage skin, boiled for hours, and then fried in fat; it was a most tasty, nutritious, and excellent meal. The Scots had a magnificent basis of diet in their oatmeal and milk with green stuff from the kailyard, forsaken now for white bread, margarine, and tea. The cottage home in many towns has almost gone, changed into one or two room tenement; the cooking facilities therein are bad as they can be, and this, combined with factory life and the amusements of the town, lead to the lazy, easy purchase of prepared foods. The rich set the fashion for fancy white bread, the servant class

spread it, and the poor suppose that what their richer neighbors eat must be the best.

SHORTAGE OF DOCTORS IN ENGLAND

In the "London Lancet" for January 16, 1915, there may be found a note on the subject of shortage of doctors, that is worth reading by those who fear the Carnegie Foundation is going to work harm to the medical profession and the people of the United States.

The president of the General Medical Council has stated that the number of medical students now studying is about 1,000 less than in 1913. He adds that the prospective diminution of our reserve supply of doctors calls for serious attention.

Sir Donald MacAlister gives no reasons for this falling off. There is little doubt but that the falling off in the number of medical students is due to the medical arrangements under the National Insurance Acts. Before these acts were passed the newly qualified doctor could look forward to making sixpenny, shilling, and half-crown fees from a portion of the public now supplied under the insurance acts.

He also finds that these acts have robbed him of the money he used to make by the supply of medicines, a loss of about £1,360,000 yearly. He finds that his private vaccination is now largely carried out by public vaccinators; that about three-fourths of his obstetric practice has been transferred to midwives; that the school board medical officers now examine, and in some places treat, the sick children; that many more patients are going into the poor-law, voluntary and municipal fever hospitals and into sanatoriums for consumptives; that the birth-rate and sick-rate are falling; and that prescribing chemists and quacks of all kinds are on the increase.

How can anyone hold that to encourage an increase in the number of medical students would not be a national danger? Doctors are called upon to perform many criminal acts, but if my "poverty but not my will consents" be a valid excuse, then an overplus of doctors is indeed a danger. The existence of so many medical and surgical homes will soon—if it have not already—become a public danger. Some can recall the grave dangers due, years ago, to doctors owning and "running" private asylums. Instead, therefore, of deploring a falling off in the number of medical students we should all rejoice at the fact. It will be a true gain to the public. For if there be anything more damnable in this world than a doctor having to go on his knees to pray to heaven to make his neighbors ill, so that he may provide daily bread for himself, his wife and children, I should like to know of it. The condition is lower, more degrading, than that of prostitution. No doubt a large number of lecturers, coaches and professors will undergo a financial loss by a falling off in the number of medical students; so will the medical examiners of students for their diplomas. No doubt some of the young men who have gone to

the war and who would have otherwise entered as medical students will so enter when the war is over. The medical drop is partly due to the war. No doubt it is also a reaction against the sadly overcrowded condition of the medical profession. We can accept Sir Donald MacAlister's statement that if the falling off in the number of medical students continues there may be a falling off in the number of doctors of 200 to 300 yearly.

LIABILITY FOR PATIENT UNDER OWN PHYSICIAN GETTING POISON IN HOSPITAL

(Broz. vs. Omaha Maternity & General Hospital Association (Neb.) 148 N. W. R. 575)

The Supreme Court of Nebraska affirms a judgment for \$7,000 damages against the defendant hospital association for the death of a patient from poison. The patient, who suffered intermittent mental infirmities, was under the care of his own physician. In the absence of his physician, wife, relatives and friends, he found and took some mercuric chlorid tablets. The court says that the pleadings, evidence and circumstances justified a finding that the patient was admitted to the hospital under an implied obligation that he should receive such reasonable care and attention for his safety as his mental and physical condition required. The physician employed by him did not relieve the hospital of responsibility for negligence on its part, if any. The patient was under the personal observation of his physician only a small portion of the time. In the latter's absence and drug emergencies he was under the care of the nurses and the intern who were employees of the hospital. Within the scope of their employment their employer was legally responsible for their negligence to a patient. The patient's physician did not manage or control the hospital, and he was not liable for the negligence of hospital nurses and interns, if he had no connection with any negligent act.

At night, during the absence of the patient's physician, it was clearly the duty of the hospital intern, who was a physician, and the nurses in charge, to give such treatment and attention as the emergency demanded, when known. The defendant was prepared for such exigency. One of the purposes of a hospital in assuming control of a patient, for private gain, is to furnish promptly modern equipment facilities and treatment. To avail himself of these advantages the patient left his home and intrusted himself to the care of the defendant. The duties which such a hospital owes to a patient are commensurate with the responsibilities assumed. The approved rule is that a patient is generally admitted to a hospital, conducted for private gain, under an implied obligation that he shall receive such reasonable care and attention for his safety as his

mental and physical condition, if known, may require.

It was said that the physician employed by the patient instructed the defendant to allow him the freedom of his room and the halls, that employees of the defendant did so, and that it was not chargeable with negligence for complying with instructions. The directions of the physician should be considered with the duty of the hospital to give the patient such reasonable care and attention for his safety as his mental and physical condition required. The defendant was not instructed to allow the patient, who had been suffering from a fitful mental disorder, access to a hospital sinkroom, where poison, in the form of medicine tablets, was kept. Whether there was negligence in allowing the patient access to such a place in the night, while unattended, was a question for the jury.

Where a hospital patient takes poison at night in the absence of his physician and friends, while he is under the exclusive care of nurses and interns, harsh and technical rules of evidence should not be enforced to exclude proper testimony tending to throw some light on material facts which, on account of the pecuniary interests and the reputation of the hospital, there might be a temptation to conceal.

In considering the reasonableness of the amount of damages awarded, it is held that a mere fitful or temporary mental disorder will not be presumed to continue.

REPORT OF C. & N. W. SAFETY COMMITTEE

The following statement shows the reduction in number of accidents on the Chicago & Northwestern Railway, for four and one-half years ending December 31, 1914, as compared with four and one-half years on same basis as year ending June 30, 1910, before the Safety First Committees were organized.

173 fewer employees killed, a decrease of 35.3 per cent.

10,671 fewer employees injured, a decrease of 27.3 per cent.

961 fewer passengers injured, a decrease of 22.8 per cent.

210 fewer outsiders killed, a decrease of 19.4 per cent.

228 fewer outsiders injured, a decrease of 8.2 per cent.

Mileage June 30, 1910, 7,953.

Mileage December 31, 1914, 8,423.

The North Western Railway operates in nine states, with a mileage of 8,423 miles; the Safety First work was commenced in May, 1910, and there are now over nine hundred men serving on the division, terminal, shop and local safety and central safety committees. The best evidence of the effectiveness of the work done by the men serving on these safety

committees is shown in the following statement of reduction in accidents for the six months ending December 31, 1914, as compared with the same six months in 1909, before the Safety First Organization was put into operation.

	1909	1914
Employees killed	61	24
Employees injured	4,546	3,025

In our statistics every case is counted where the injured person loses one day's time or more.

It has been the aim of the Safety First Organization to impress upon the men that it was they and not the stockholders or officers of the road who were being killed and injured; that they are the controlling factor in the work; that every time an employe is killed or injured it not only brings suffering and sorrow to himself and family, but it necessitates the employment of an inexperienced man in his place, thereby increasing the risk of injury to all other employes, and at the same time decreasing the efficiency of the organization.

Safety Bulletin No. 13

Safety First is not a question of dollars and cents; it is a question of saving human life, the most valuable thing in the world which, when once gone, can never be brought back. It is trying to save men from losing their legs and their arms which never can be put back. It is trying to save the making of widows and orphans, destitution and misery. Neither the officers nor the laws can do it. But the workmen can do it if they try.

The issuance of bulletins similar to the following was adopted for the purpose of calling to the attention of the men the importance of eliminating the little accidents which can be prevented in less time than it takes to report them.

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA

John B. Murphy, president; Charles H. Mayo, president-elect; George E. Armstrong, vice-president; Herbert A. Bruce, first vice-president-elect; Robert L. Dickinson, second vice-president-elect; Allen B. Kanavel, treasurer; Franklin H. Martin, secretary-general; A. D. Ballou, general manager.

Committee on Arrangements for the Boston Meeting

F. B. Lund, chairman; Lincoln Davis, secretary.
J. B. Blake, J. T. Bottomley, E. G. Brackett, E. H. Bradford, Hugh Cabot, A. L. Chute, E. A. Codman, F. J. Cotton, E. A. Crockett, J. H. Cunningham, Jr., Harvey Cushing, J. E. Goldthwaite, W. P. Graves, Elizabeth T. Gray, John W. Lane, R. W. Lovett, S. J. Mixter, F. S. Newell, Horace Packard, C. F. Painter, Sarah E. Palmer, C. A. Porter, Edward Reynolds, Edward P. Richardson, C. L. Scudder and Paul Thorndyke.

The Clinical Congress in Boston

The sixth annual session of the Clinical Congress of Surgeons of North America will be held in Bos-

ton the week of October 25, 1915. An invitation was tendered by a committee of Boston surgeons and accepted by the executive committee on behalf of the Congress. A committee on arrangements composed of Boston surgeons representing the several hospitals has been formed (see list above) and is preparing a program of clinics and demonstrations that will afford the visiting surgeons a splendid opportunity of witnessing the work of the Boston surgeons and clinicians in their hospitals. The plans are comprehensive, as the committee is determined that there shall be a complete showing of Boston's facilities in every branch of surgery and allied specialties. The clinical program will include operative clinics in general surgery, gynecology, obstetrics, genito-urinary surgery, orthopedics, surgery of the eye, ear, nose and throat, together with a large number of demonstrations in surgical and border line subjects.

The headquarters of the Congress will be at the Copley-Plaza—Boston's newest hotel, which is centrally situated in the Back Bay district and from which any of the hospitals and medical schools may readily be reached in a few minutes. The major portion of the ground floor of this hotel has been reserved for the use of the Congress during the week, affording ample space for the registration and ticket bureaus, bulletins, etc. Adjacent to these rooms is the large ball room, in which will be held the evening meetings.

Following the precedent establishment at the London session, attendance at the Congress will be limited to a number that can be comfortably cared for at all times. An announcement of the plans for this session will be sent shortly to members of the Congress and advance registrations will be requested of all who wish to attend. When the required number of registrations is reached no further applications will be received for the Boston session.

Admission to the clinics and demonstrations will be strictly controlled by means of special tickets which will be distributed daily at headquarters in order of application after the clinical schedule has been posted. The exact capacity of each theater and lecture room will be carefully ascertained in advance and the number of tickets for each clinic and demonstration will be regulated in accordance therewith.

The importance of Boston as a medical center is so well established that little may be added to what is already known with regard to its medical schools and hospitals. Boston has a large number of public and private hospitals and included in this list are several institutions which exemplify the most modern ideas as to construction and equipment. Notable examples are the Peter Bent Brigham, Children's, Infants, and Collis P. Huntington Memorial Hospitals, in connection with Harvard Medical School.

Among the hospitals which will co-operate in the clinical program are:

Massachusetts General, Boston City, Children's,

Homeopathic, Peter Bent Brigham, Carney, Free Hospital for Women, St. Elizabeth's, New England Hospital for Women and Children, Robert Brigham, Frost, Faulkner, Eliot, Long Island, Lying-In, Boston Dispensary, Massachusetts Eye and Ear Infirmary, Forseyth Infirmary.

Following plans established at previous congresses, there will be sessions each evening at which eminent American and foreign surgeons will read papers dealing with surgical subjects of present-day interest and these will be discussed by local surgeons.

HOSPITAL LIABLE FOR DEATH OF DELIRIOUS PATIENT JUMPING FROM WINDOW

(Wetzel vs. Omaha Maternity and General Hospital Association (Neb.), 148 N. W. R. 582)

The Supreme Court of Nebraska affirms a judgment against the defendant for \$5,500 damages for the death of a patient who, while delirious, jumped from an unguarded window of his room on the third floor of the hospital, in the absence of the nurse, who said that she had not been gone five minutes, while another witness said it was nearly an hour. The defendant contended that there was no evidence of actionable negligence, particularly as the contract was to give the patient general, and not special care, that the attending physician was selected by the patient or his friends, and that the nurse obeyed all of the physician's instructions. But the court points out that there was testimony tending to show that the patient, having typhoid fever in his own home, was taken to the hospital for better care and attention. When the hospital was called up by telephone to make arrangements for his care, it was said by whoever answered that general care was sufficient for a patient in such condition. The hospital was advised in advance that the patient had been delirious. To protect him from harm, the hospital nurse, on her own initiative, but with the subsequent approval of the physician, kept him for a time strapped to his bed. Then, though his fever remained high and his delirium continued, the straps were released by direction of the physician to permit frequent change of position, made necessary by premonitions of hypostatic pneumonia. The lower sash of the window was movable, unfastened and unprotected when he jumped out.

As law, the court holds that a hospital, incorporated and conducted for private gain, is liable in damages to patients for the negligence of its nurses and other employes. This rule of law rests on the general principle that a master is responsible for the torts or wrongful acts of a servant in the scope of his employment; and this doctrine applies to a hospital receiving for special care delirious patients, who on account of temporary conditions produced by fever or other ailments are not accountable for their own acts or conduct. A patient is generally admitted to a hospital, conducted for private gain, un-

der an implied obligation that he shall receive such reasonable care and attention for his safety as his mental and physical condition, if known, may require. Any other rule would be a reproach to the law and to the hospital management. In the present case the evidence was sufficient to justify a finding that the patient was received under circumstances entitling him to the benefit of the principle stated. Duties which a hospital as such owes to a patient cannot be evaded by proof that the hospital nurse obeyed the instructions of the physician employed by him. Nurses necessarily have charge of delirious patients during the absence of physicians, while the responsibility of the hospital continues. Under the circumstances of this case, self-injury might well have been foreseen. It cannot be said as a matter of law that there was no proof of negligence on the part of the nurse or on the part of her employer. A nurse's absence of five minutes may amount to negligence. The question of negligence, under the circumstances here, was one of fact for the jury.—The Journal of the American Medical Association.

THE DANGER OF DELAY IN CANCER

Thousands of lives now needlessly sacrificed to cancer could be saved if the patient would go to the surgeon as promptly as does the average person attacked by appendicitis. Nor is there any reason why the cancer patient should not seek this, the only safe treatment, with the same high degree of confidence in the outcome that is now common among those suffering from the other more fashionable disease. Unfortunately, the evidence is only too clear that a different attitude toward cancer prevails and occasions many preventable deaths. The almost superstitious dread of the disease and unwillingness to admit its existence or to seek medical advice in time are well known and difficult obstacles to progress in its control. Proof of this fatal neglect is found in the experience of a prominent surgeon who recently studied his case records in order to obtain definite information as to the delay in the average case. Of sixty-five recent patients, thirty-five were men and thirty were women. Further study of these sixty-five cases showed that after the first discovery of suspicious symptoms the men had waited an average of twelve and two-tenths months before consulting the doctor, and the women had waited, on the average, eleven and nine-tenths months, practically a year's delay in all cases. Many other surgeons could produce very similar records. Winter, of Koenigsberg, Prussia, the pioneer in the education of the public in regard to cancer, examined the records of 1,062 operable cases and showed that 87 per cent of these patients could and should have applied for treatment much earlier, when they would have had a far higher chance of recovery than was actually the case.

To the delay when the symptoms are manifest must be added the previous indefinite period after

the beginning of the disease and before the patient realizes the trouble. This period can be shortened by education. Fortunately, the symptoms of cancer are present quite early and can usually be recognized if the patient understands their importance. In too many instances, however, the disease is not suspected until the symptoms are pronounced or until there is a tumor of considerable size. If we assume that this period averages six months, and then add the year's delay for which the patient is responsible, we find that the average patient does not seek advice until at least a year and a half after the onset of cancer. This precious time, thrown away, means, if not a fatal outcome, at least a serious instead of a minor operation.

In the present state of our knowledge of malignant disease it cannot be too frequently emphasized that the hope of curing cancer is to be found in its earlier recognition and in prompt and competent surgical treatment. The unfortunate patient who, because of ignorance or unwarranted fear or the blandishments of quacks, hesitates to seek proper advice should realize that in this delay he or she is recklessly throwing away a splendid chance of cure.

WHY EARLY CANCER IS CURABLE.

* There is still a widespread misapprehension that cancer is a constitutional disease caused by some substance or poison in the blood. Those who hold this mistaken opinion commonly believe that the disease is hereditary, and in a vague way they think there must be some taint handed down from one generation to another which causes cancer to flourish in certain families. In the minds of people not well informed on the subject this belief may well cause a feeling that it is somehow shameful to have the disease. Such misapprehension, combined with the notion which has long prevailed that cancer is a hopeless, incurable affliction, and that it is of no use to try to have anything done for it, may well account for the extraordinary delay of many sufferers in seeking treatment. A further cause is the fact that cancer, in the early stages, often causes little or no pain. Many a surgeon has wished that cancer, in its early manifestations, might cause the sufferer half as much trouble as a toothache, for then the patient would surely be driven to seek relief so quickly that he or she would be easily cured.

That cancer is at first a local growth and not a general disease of the system is now clearly established. This fact is of the utmost importance, since it holds out a high hope of cure if the malignant growth is removed before it has time to spread to other parts of the body. Cancer beginning in one spot later appears elsewhere, because small particles or cells are carried away from the first site and start other growths, not because there exists previously some poison in the blood which causes the

disease to break out in different parts of the body. The great hope of cure, therefore, lies in removing cancer entirely from the system before it has a chance to spread from its first foothold.

The reason why so many people came to believe that cancer was a blood disease is doubtless because it was observed to come again in the same or other parts of the body after having been apparently cut out. It was natural to assume that when the disease kept coming back in this manner there must be some cause or taint in the blood which led to its breaking out in different places much like certain skin diseases. The trouble which started this fallacious reasoning was that in those earlier days cancer was not so well understood as it now is. Surgeons then did the best they knew how, but without the advantages of modern methods they were unable successfully to exterminate the disease. The microscope has now shown us the paths by which cancer cells start their invasion of the body if the first and local appearance is neglected. Modern surgeons are, therefore, repeatedly successful in removing the disease once for all. As an eminent American doctor has well said "It is not surgery, but delayed surgery that fails to cure."

FURTHER LIGHT ON RADIUM

The outburst of sensational discussion of radium as a cure for cancer having subsided, this method of treatment is finding its true place and value as an aid to surgery. Through constant study at the hands of many experts, a new and better understanding of its action is being attained. The latest statement from an authoritative source is found in the annual report of the Harvard Cancer Commission. At the Collis P. Huntington Hospital in Boston 200 milligrams of radium are in use under all the advantages of new and ingenious methods of application devised by the hospital staff. As a result of another whole year of observation, the Harvard Commission repeats its conclusion first published in 1914, that the curative value of radium is limited to certain types of skin cancer and other localized forms of the disease. Its value as a palliative in relieving pain and discharge in inoperable cases has been fully confirmed. It has also been found effective in leukemia, a disease marked by an enormous increase in the white blood cells with enlargement of the spleen. Large cancerous growths were sometimes found to disappear under the influence of radium, but the spreading of the cancer to other parts of the body was not prevented in these cases, and indeed it appeared that patients might even succumb to the poisons released into the system as a direct result of the breaking up of the tumor under radium treatment. Most significant of all is the statement that radium treatment has been refused at the Huntington Hospital in cases where a surgical cure seemed reasonably probable.

TYPHOID FEVER IN THE PHILIPPINES

Typhoid fever is more prevalent in the Far East than in former years. At the Philippine General Hospital in Manila there was a fairly uniform number of typhoid patients during 1911 and 1912. During the first half of the year 1913 there was a marked increase. A summary by Dr. Gutierrez of the conditions in the government hospital at Manila, where most of the cases of typhoid fever treated occur among native Filipinos, is based on a study of 125 Filipinos out of a total of 137 cases admitted to the Philippine General Hospital during two years.

In the Philippines the greatest prevalence is during the autumn months, continuing into the winter, and declining in the spring. The Filipinos undoubtedly have a lowered resistance consequent on their modes of life and limited diet. Many patients come to the hospital in a hopeless condition and thus help to swell the death rate. As the diet of the natives is being improved and the cases are admitted to the hospital earlier in the course of the disease, a more normal death rate is being approached.

This, says The Journal of the American Medical Association, is what may be expected in an institution which, during the few years of its existence, has worked so effectively for the relief of the sick in Manila and in the provinces, has contributed much to scientific medicine, has helped to raise the standard of hygiene and of medical practice in the Far East, and has abundantly justified the expectations of those who have confidence in the efficiency of American institutions.

IMMIGRATION PROBLEMS OF THE FUTURE

Among the many far-reaching effects of the present European war, the influence exerted on immigration assumes a prominent place. The end of the last fiscal year saw a total of 1,485,957 added to our population from this source. The influx of immigration proceeded at the normal rate until it was given a sudden check by the declaration of war in August, when the average daily landing of 3,000 or more at Ellis Island became barely that many a week. There seems to be a general agreement that the cessation of the war will see a renewal of the flood of immigrants which will surpass anything heretofore experienced. The country is alert to this possibility, and preparations to meet the expected increase are already in evidence. The proposed changes in our immigration laws will, if enacted, enforce more rigid physical requirements than any previous legislation on this subject. There is no doubt that the country needs these added safeguards. The truth of this statement is forcibly illustrated by that section of the report of the Committee on Inquiry into the Department of Health, Charities and Bellevue and Allied Hospitals of New York City, which deals with aliens in institutions. The committee examined, as far as practicable, every patient admitted to

Bellevue for a period of thirty-one days from May 19, 1913 to June 18, 1913, inclusive. Of the 3,454 admissions during that period, 363 were aliens who had been in the United States less than five years. The physicians who examined these aliens believed that there were 185 of them suffering from diseases caused by conditions which existed prior to landing in the United States. Among these were ten cases of pulmonary tuberculosis; fifteen cases of venereal disease; eighty-one psychopathic cases; two cases of epilepsy, and two of imbecility. This made a total of one hundred and ten patients in one month whose admission to the United States was contrary to the federal immigration law. Taking this month as a basis, the committee estimates that in one year Bellevue Hospital would receive 1,345 alien patients whose exclusion from this country is mandatory under existing federal statutes, while the total number of aliens who would be patients from causes existing prior to landing would be 2,262 yearly. This large number of physically and mentally defective aliens have succeeded in passing the examinations at entrance primarily because there are totally inadequate facilities for examining such a large number in the time allotted for the work. Now that immigration has declined to 3,000 a week, the physicians at Ellis Island have been able to make more thorough examinations. As a result of this intensive scrutiny, the percentage of defects noted has increased from the former 2 or 3 per cent to about 7 per cent. The difference in the results obtained, leads The Journal of the American Medical Association to suggest the advisability of urging the Department of Labor to provide the increased facilities which will be absolutely necessary if the physicians continue their present thorough methods of examination when immigration resumes its normal course.

LIGHTING OF FACTORIES.

Factories should be well lighted, first because poor lighting injures the eyes, and second because poor lighting detracts from the earning capacity of the workmen and is an extravagance. Good lighting is economical. It is strange how little attention is paid to the proper lighting of factories. Beautiful buildings are built, expensive machinery installed, safety devices used, ventilation, cleanliness, rest rooms, sanitary lavatories, etc., adopted, but it frequently happens that the work rooms are very poorly illuminated, and that the eyes of the employes are thus subjected to constant strain. This is sometimes due to economy, but not always, for many employers are anxious and willing to do all they can for the comfort of their employes, and spend a great deal of money for lighting purposes, but their efforts have not been guided by intelligence and experience. The same money or perhaps less would furnish adequate illumination. The question is not always one of fixtures, power and windows, but of considering the nature of the work and how the illumination, both natural and artificial, can be best adapted and

arranged to suit the circumstances of the case. Many cases of headache, and of serious eye diseases, as well as accidents to the eye and other organs are due to poor factory illumination.

This matter was considered so important by the French Government, that in 1912, it appointed a committee of scientific men to consider the subject of the proper artificial illumination of factories. This committee studied the problem from the standpoint of general health, and the effect on vision of artificial illumination. It endeavored to determine the composition and quality, from a hygienic standpoint, of the different combustible illuminants, and to examine the effects of gases and the amount of heat developed; to fix a certain amount of artificial illumination as necessary for the normal requirements of vision and to study the most practical methods of measuring illumination. It also undertook to formulate recommendations for applying customary methods of lighting to the chief varieties of industrial operations, and to present a report on short sight and the impairment of vision, as well as the best methods of guarding against these dangers.

The investigation showed that the sources of high illumination must not be in the field of ordinary vision; that the amount of light must be sufficient for the work to be done; that the distribution of light must be as nearly uniform as possible, and that the color must be pleasing to the eye.

Superior work can only be accomplished under good lighting conditions. Under good lighting conditions vision is preserved, health is conserved, and factory output is increased from 8 to 15 per cent. Accidents are much less likely to occur. The saving produced by good lighting will pay many times over the cost of the installation of good lighting facilities. The maximum number of accidents occur during the time in which artificial light is used. A well lighted factory is more productive than a poorly lighted one. Bad lighting is detrimental to eye-sight and health. It is an extravagance that factory owners cannot afford.

BOOK REVIEWS

PRINCIPLES OF HYGIENE

For Students, Physicians and Health Officers. By D. H. Bergey, M. D., First Assistant, Laboratory of Hygiene and Assistant Professor of Bacteriology. University of Pennsylvania. Fifth Edition Thoroughly Revised. Octavo of 531 Pages, Illustrated. Philadelphia and London. W. B. Saunders Company, 1915. Cloth, \$3.00 Net.

We have used the fourth edition of this work a great deal during the past year, and have found it a most satisfactory guide. This, the fifth edition, brings everything up to date. The author meets the needs of the general medical man in acquiring a working knowledge of the principles of hygiene in reference to houseing, sewage disposal, water supply.

The book is a most helpful guide to the health officer and for the architect it holds much information. If you are interested in hygiene—and you should be—you will be pleased with this book.

INFANT FEEDING, ITS PRINCIPLES AND PRACTICE

By F. L. Wachenheim, M. D., Attending Physician Sydenham Hospital and Mount Sinai Dispensary, New York City. 12 mo., 340 Pages. Cloth, \$2.00, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The literature on this subject is very extensive, having been greatly increased during the past decade by reason of differing theories, mainly those on milk modification, so that the physician hardly knows how to separate the wheat from the chaff. This, Dr. Wachenheim has done for us, carefully considering and presenting in available form the ultimate conclusions representing the most successful practices of the present time.

Milk is considered in every phase—bacteriologically, sources of infection, constituents and differences between human and bovine milk, and the subject of milk regulation.

The causes, symptomatology, diagnosis and treatment of disturbances of metabolism and digestion are clearly presented in plain, understandable terms. The facts of infant digestion and metabolism are set forth as preliminary to the later consideration of disorders arising therein. He advocates the continuance of breast feeding in cases where the supply is ample, even if grave digestive symptoms arise, as being a safer procedure than transference to the uncertainties of artificial feeding.

The top milk and the percentage method are alike condemned as inaccurate and faulty, preferring the process of simple dilution. He also declares that "it is indeed doubtful if caloric investigations have been of great practical value in determining methods of infant feeding."

A chapter on feeding of older infants concludes the work, except for a very extensive bibliography and a comprehensive and usable index.

MEDICAL ELECTRICITY AND RONTGEN RAYS AND RADIUM

By Sinclair Tousey, A. M., M. D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second Edition, Thoroughly Revised and Enlarged. Octavo of 1219 Pages; With 798 Practical Illustrations, 16 in Colors. W. B. Saunders Company, 1915. Philadelphia and London. Cloth \$7.50 Net. Half Morocco, \$9.00 Net.

For the purpose of review we may divide the book into five parts: Electricity for Diagnosis and Treatment; High-frequency Currents; Phototherapy; the X-ray and Radium.

Under the first division 264 pages are devoted to general considerations; the different forms of electricity and apparatus. This section which is almost a text-book on electricity, is complicated, but may be easily understood by one who has had the preparatory training in physics of a modern medical education.

Among many important appliances described is one which is of interest to the military surgeon, one which has been particularly noticed by Sir James Davidson in locating bullets—the telephone bullet probe—which was first described by Dr. John H. Girdner of New York City. Electricity occurring in plants and animals considered in relation to the phenomena of muscular contractions present many features of scientific interest. As one might reasonably suppose, considerable space is given to the physiological effects of electricity.

An interesting section of the book is in relation to electropathology. This of course relates to electric accidents which are so common in these days of electricity in the industries, and the author lays particular stress on the proverbial “ounce of prevention.” In medico-legal inquiries this chapter will prove helpful.

The remainder of our arbitrary first division (140 pages) is devoted to Electro-diagnosis and Electro-therapy. Electro-diagnosis has a generally accepted recognition and its value in diseases of the nervous system is undisputed. In relation to the therapeutic value of electricity there still remains a considerable divergence of opinion; however the best that can be said on the subject can be found in this book.

The division including High-frequency Currents seems to offer all that can be said on the subject. The apparatus necessary to the use of this current is described in detail as well as the manner of managing this form of electricity. The author presents illustrations of electrodes devised by himself. He also gives in considerable detail Keating Hart's method of high-frequency sparks for cancer. It is claimed that after the cancer is removed the high-frequency spark is of very material benefit as a precautionary measure against recurrence. After considering the physiologic effects of high-frequency currents, the author proceeds to a study of its effects on defective metabolism and expresses confidence in its “great importance,” on blood pressure particularly. This claim is certainly worthy of the first consideration. We cannot but feel that we have often fallen short of the best results from a failure to use the current in the scientific and efficient manner pointed out by Dr. Tousey. Besides diseases of the cardio-vascular, Dr. Tousey advocates the use of the current in local trophic diseases, injury to joints, genito-urinary diseases and diseases of the nervous system, particularly chronic degenerative diseases, all more or less due to defective metabolism.

Phototherapy or light as a therapeutic agency, occupies forty pages of this book in which the apparatus for generating the different rays; the theory

and application in the treatment of disease is convincingly set forth.

The X-ray and Rontgenotherapy occupy 460 pages and is really a treatise in itself. The subject is so well known and Dr. Tousey is so well recognized as an authority on X-ray that we can only point out the clear and masterly way in which this all important subject is treated.

The last forty pages are devoted to Radium. Under this head Radio-Activity properties of radio active substances, theory of Radio-Activity. Chemic effects of Radium Rays, physiologic effects, and the effects on micro-organisms are briefly set forth. The author under the head of Radium Therapy recommends it in the treatment of lupus, various skin diseases, and in malignant disease. We are not quite sure of the degree of faith Dr. Tousey has in the efficacy of radium in the treatment of malignant disease, but apparently believes that all forms of superficial epitheliomas are benefitted.

This great work has a very complete index, so essential in a book of this kind; this full index is exceedingly helpful in finding in the briefest time a vast amount of information. We feel quite sure that every practitioner of scientific medicine will find this volume an extremely valuable addition to his library.

THE CLINICS OF JOHN B. MURPHY, M. D.,
at Mercy Hospital, Chicago, Volume IV
Number I (February, 1915). Octavo of 185
Pages, 41 Illustrations. Philadelphia and
London. W. B. Saunders Company, 1915.
Published Bi-Monthly. Price Per Year, Paper,
\$8.00; Cloth, \$12.00.

In this number Dr. Murphy takes up first intestinal fistulae as the result of delayed operations for appendicitis. He particularly emphasizes the duties and obligations of the practitioner who is called early in appendix cases. There are five cases in this group. This number contains a lecture before the Clinic by Dr. Harvard R. Gaylord, of Buffalo, on cancer research. As is well known, Dr. Gaylord always says the latest word on this subject.

The next clinic should be particularly interesting to some of our readers for the reason that the Medico-legal Committee was called upon to defend a very expensive malpractice suit against two of our members for a similar condition. On page seventy-seven a case is described under the head of “Division of the Brachial Plexus.” This case is almost identical with ours in which a verdict of \$1,500 was rendered for the plaintiff. Following there is described a case of posterior dislocation of the spine treated by open reduction. The discussion of this case is particularly valuable.

We would in an especial manner call attention to the discussion of “Contracting Cicatrices” on index finger and thumb. These cases are not very uncommon and the proper treatment means so much to the

patient that the advice of a master surgeon should be considered with great care.

If the general practitioner or general surgeon is looking for something to guide him in his work, he is certain to find it somewhere in the volumes of Clinics.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE

For Students and Practitioners. By Hobart Amory Hare, B. Sc., M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; One Time Clinical Professor of Diseases of Children in the University of Pennsylvania. Third Edition, Revised and Enlarged. Imperial Octavo, 969 Pages, With 142 Engravings and 16 Plates in Colors and Monochrome. Cloth, \$6.00 Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

Dr. Hobart Amory Hare is one of the best known of American practitioners of internal medicine, and so many contributions has he made to the literature of medicine that it seems hardly necessary to do more than print the title of this, the third edition of his practice of medicine. There is however, one fact that needs to be stated in noticing a new edition of a work on the practice of medicine; the work must be in considerable measure, rewritten, and no one would be more alive to this fact than Dr. Hare himself who has so long been before the medical public. A large amount of material has been gathered in this single volume; the writing is concise and clear. This has enabled the author to treat the whole range of internal medicine in greater detail than would be expected in a single volume work.

INADEQUACY OF THE RED CROSS IN EUROPE

Mr. Ernest P. Bicknell, national director of the American Red Cross, is reported in the Survey for October 3, 1914, as deploring the inadequacy of the organization's work in the present conflict. In the days when an army of 100,000 was considered enormous, Red Cross work was practicable and efficient. "Now," says Mr. Bicknell, "7,000,000 or 8,000,000 men are facing each other along 1,000 miles of battle front. The terrible effectiveness of modern weapons was never given so great a chance to show itself. Over thousands of square miles countless thousands of men are left wounded and helpless; never before have so many soldiers been reported missing. Berlin, Paris, and London are literally filling up with wounded and sick soldiers. The public and private hospitals have been filled. Public buildings are being used to house them and many private homes are now being thrown open, but only a small

number can be brought into the big cities. Even transportation is inadequate. In the villages and the countryside throughout the immense fighting area lie thousands of men who have not seen either doctor or nurse; some of them crawl into houses, but no one knows how many are lying under haystacks, in the cattle sheds, or in ditches and along the roadside. To meet this unprecedented call no human prearrangements could have been adequate. The Red Cross Societies in Europe are thoroughly efficient. They are organized primarily for war relief, but they simply cannot get doctors and nurses enough. These, together with medical and surgical supplies, are the greatest needs. There are enough nurses and doctors in the world, willing to go to the scene of need; the problem is to get them there. The fighting nations cannot do it adequately and promptly enough; it is in a large measure up to the non-fighting countries. The American Red Cross, which has already sent 138 nurses and thirty doctors, could send every one of its 5,000 enrolled nurses and not exceed the need. Caring for the families at home of those who have gone to war is another problem. None of the Red Cross Societies can attempt this."

Interesting in connection with these remarks is the reported statement by Sir Frederick Treves, that the American Red Cross hospital near Torquay is the best equipped war hospital in England.

POSSIBLE CHANGE IN TRAVEL STUDY CLUB

The suggestion has been made by a number of members of our Travel Study Club and by others interested in our proposed trip to the Far East, in connection with the A. M. A. meeting and Panama Pacific Exposition in San Francisco, that a shorter tour than the one which has been proposed would appeal more to the majority of those interested.

It is possible to arrange for a shorter tour by leaving out Manila and China and having the trip include Honolulu and a more extended trip through Japan. The condensed schedule for this proposed change would be as follows:

- June 26—Leave San Francisco, on S. S. "Persia"
- July 3—Arrive Honolulu.
- July 14—Arrive Yokohama.
- July 31—Leave Yokohama on S. S. "Mongolia."
- August 10—Arrive Honolulu.
- August 16—Arrive San Francisco.

In this manner, seventeen days of the trip will be devoted to Japan, in visiting the various important medical and scientific institutions, cities and other points of general interest to the tourist.

The cost of the tour from New York back to New York will be \$750, which rate includes membership on the N. Y. and N. E. Medical Special train leaving June 16th, reaching San Francisco June 20th, with first class transportation, Pullman berth, meals en route, and hotel accommodations, European plan,

at one of the leading hotels in San Francisco during the stay from June 20th to 26th, with a first class railroad ticket returning to New York by any direct route selected. Rate from Boston will be \$755.70 and proportionately lower rates will apply from points en route.

The rate commencing with the departure San Francisco, June 26th, to arrival at that point August 16th will be \$505. Those wishing to extend the trip and to visit Manila and China will be able to do so in accordance with the schedule, and at the rate as per Circular No. 2 previously issued

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

Slee's Normal Horse Serum.—Marketed in vials containing 100 cc. Abbott Alkaloidal Company, Chicago.

Diphtheria Antitoxin.—Marketed in packages of 10,000 units ready for use. Memorial Institute for Infectious Diseases, Chicago.

Concentrated Diphtheritic Antitoxin.—Marketed in syringe packages containing from 500 to 7,500 units. F. Stearns and Co., Detroit, Mich.

Bacillus Coli Communis Vaccine.—Marketed in boxes of 6 ampoules. E. R. Squibb and Sons, New York City.

Staphylo-Acne Vaccine.—Marketed in boxes of 6 ampoules E. R. Squibb and Sons, New York City (Jour. A. M. A., Nov. 14, 1914, p. 1763).

Pyocyaneus Vaccine.—Marketed in boxes of 6 ampoules. E. R. Squibb and Sons, New York City.

Streptococcus Vaccine.—Marketed in boxes of 6 ampoules. E. R. Squibb and Sons, New York City.

Friable Tablets of Emetine Hydrochloride, Mulford.—Each tablet contains emetine hydrochloride 0.032 Gm. H. K. Mulford Co., Philadelphia, Pa.

Antirabic Vaccine.—Consisting of eighteen doses, one dose is sent by mail daily. Pasteur Institute of St. Louis, St. Louis, Mo.

Typhoid Vaccine, Immunizing.—Marketed in packages of three syringes and in packages of three ampoules. H. M. Alexander and Co., Marietta, Pa. (Jour. A. M. A., Nov. 28, 1914, p. 1953).

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Antiseptic Supply Co.:

Cupric Applicators; Cupric Applicators, Special; Caustic Applicators, Special; Styptick Applicators, Special (accepted for the appendix to N. N. R.)

Laboratory of W. T. McDougall:

Pasteur Antirabic Vaccine.

H. K. Mulford Co.:

Solution Pituitary Extract.

Radium Company of America:

Radium Bromide, Radium Chloride, Radium Sulphate.

Standard Chemical Company:

Radium Carbonate.

Clinical Evidence.—In view of the unsatisfactory evidence for the therapeutic value of articles proposed for inclusion with New and Non-official Remedies, the Council adopted the following statement:

"Claims are often made, however, which are incompatible with common experience and sometimes defy the laws of Nature. Claims which seem highly improbable will not be admitted by the Council unless the manufacturer supports them by evidence acceptable to the Council. In doubtful cases the Council acts on these questions under the advice, and with the co-operation, of its staff of clinical consultants."

Change of Formula.—In view of information received from the Antiseptic Supply Company the Council has modified the description of Cupric sticks to indicate that these are tipped with a mixture of copper sulphate, alum and potassium nitrate, containing 20-25 per cent of copper sulphate.

Pituitary Liquid.—Armour and Company have informed the Council that its Pituitary Liquid is adjusted to uniform strength by the method of G. B. Roth (Jour. of Pharm. and Exper. Thera., July, 1914). The description of Pituitary Liquid, Armour has been revised to indicate this.

PROPAGANDA FOR REFORM

Eckman's Alterative.—Eckman's Alterative is a "consumption cure" patent medicine consisting essentially of alcohol, calcium chlorid and cloves. Now the Eckman concern is running a series of advertisements in which medical writings on the use of calcium in tuberculosis are twisted into recommendations for the nostrum (Jour. A. M. A., Nov. 7, 1914, p. 1686).

The Friedmann Treatment.—An investigation made by the U. S. Public Health Service of the validity of the claims made for the Friedmann treatment of tuberculosis is a complete refutation of Dr. Friedmann's claims, not only as to having developed a specific cure for tuberculosis but also as regards the harmlessness of the treatment. The report of the investigation shows the flimsy evidence on which the Friedmann method for the treatment of tuberculosis was based (Jour. A. M. A., Nov. 7, 1914, p. 1673 and 1690).

The Action of Iodids on Blood Vessels and Heart.—The iodids, especially potassium iodid, have been

credited with having a blood-pressure lowering action and have been used extensively in the treatment of arteriosclerosis. D. I. Macht has demonstrated that the iodid ion, instead of depressing the heart and vessels, has a marked stimulating action and that if potassium iodid lowers blood-pressure it must be the effect of the potassium part of the compound (Jour. A. M. A., Nov. 14, 1914, p. 1767).

Agar-lac.—Agar-lac, sold by E. Fougere and Co., is stated to be composed of "Agar-Agar with Lactic Ferments Grs. 4½, Phenolphthalein Grs. ½." Regarding the "lactic ferment," the expert of the Council on Pharmacy and Chemistry reported that *Bacillus bulgaricus* were present in small numbers only and that there were at least two other bacteria present. The Council refused recognition to Agar-lac because its composition is not correctly declared, because it is exploited in a way to cause laymen to use it to their detriment, because unwarranted therapeutic claims are made for it, because its name does not indicate the most potent constituent, phenolphthalein, and because the use of a ready-made combination of cathartic drugs with lactic acid ferments is unscientific (Jour. A. M. A., Nov. 14, 1914, p. 1777).

Asepticones.—Asepticones, sold by the Chinosol Company, are vaginal suppositories stated to contain salicylic acid, boric acid, quinin and chinosol. On the basis of the evidence submitted the Council on Pharmacy and Chemistry voted that Asepticones be refused recognition because unwarranted and misleading therapeutic claims are made; because the name does not indicate the potent constituents and because it was considered an unscientific shot-gun mixture (Jour. A. M. A., Nov. 14, 1914, p. 1778).

Bacillicide.—Bacillicide, sold by the Prophytol Products Company, Richmond, Va., is an unscientific solution of the Glyco-Thymoline type. It was refused recognition by the Council on Pharmacy and Chemistry because its composition is secret, because unwarranted and exaggerated claims are made for it and because the use of complex mixtures of uncertain composition is unscientific and contrary to the best interests of the public (Jour. A. M. A., Nov. 14, 1914, p. 1778).

Iron Solution for Intravenous Therapy.—This solution, manufactured by Perkins and Ross, Colorado Springs, Colo., contains soluble iron phosphate as its essential constituent and is recommended as a "chalybeate, emmenagogue and tonic." As the intravenous administration of a drug like iron, which must be continued for long periods, cannot be considered the method of choice, as the composition of the solution is such that changes may occur on standing, etc., which would make the preparation dangerous, and as the method of marketing the solution does not insure its sterility, further increasing the danger of its use, the product was refused recognition by the Council on Pharmacy and Chemistry (Jour. A. M. A., Nov. 14, 1914, p. 1778).

Maignen Antiseptic Powder.—This powder, exploited by the Maignen Institute, Philadelphia, is

stated to be composed of calcium hydroxid, sodium carbonate, aluminum sulphate and boric acid and its action depends on the sodium hydroxid which forms when the powder is treated with water. It is advertised both to physicians and the public by means of claims which are extravagant, preposterous and dangerous. Thus a pamphlet gives directions for the sterilization of the nose, throat, stomach, lungs, eyes, gums, mouth and the genito-urinary tract. Its use is claimed to prevent blood poisoning, lockjaw, hydrophobia and infectious diseases and mothers are invited to treat their babes' ailments with it (Jour. A. M. A., Nov. 14, 1914, p. 1778).

Radium Emanation Activators.—Outfits for charging drinking water with radium emanation are now widely and extravagantly exploited. For an apparatus which imparts 2,500 Mache units to water each day as much as \$200 is asked. Theoretically, 72 cents worth of radium can produce 2,500 Mache units of emanation per day. Even if, because of mechanical difficulties 20 times as much radium were required to be present in the activator, the cost of the radium in this \$200 apparatus would be only \$14.40 (Jour. A. M. A., Nov. 14, 1914, p. 1780).

Lysoform.—Lysoform and Crude Lysoform, made by the Lysoform Gesellschaft, Berlin, Germany, are solutions of potash-soap stated to contain respectively 6-7 and 10 per cent of formaldehyde. These preparations were refused recognition by the Council on Pharmacy and Chemistry because unwarranted claims were made in regard to their efficiency and because their indiscriminate use for the treatment of diseases was recommended (Jour. A. M. A., Nov. 21, 1914, p. 1870).

Phecolates, Phecolax, Phecozymes and Phecotones.—These are tablets put out by F. Waldo Whitney designed to form part of a system of treatment founded on the theory of autotoxemia. The different mixtures consist in the main of well-known remedies, one of them containing ten constituents. Most extravagant claims are made for these mixtures. The Council on Pharmacy and Chemistry voted to refuse them recognition as unscientific shot-gun mixtures and because the names do not indicate their potent constituents (Jour. A. M. A., Nov. 21, 1914, p. 1870).

Serum Vaccine, Bruschettini.—This vaccine, sold by R. G. Berlingieri, New York, has for its aim the destruction of the tubercular cell and the facilitation of its elimination by the natural expulsive processes. The manufacturer not having submitted proof of the value of the preparation, the Council on Pharmacy and Chemistry voted that it be refused recognition. Later, information was received that the preparation was now used only in slight cases (Jour. A. M. A., Nov. 14, 1914, p. 1870).

Sherman's Non-Virulent Tubercle Vaccine.—This product of G. H. Sherman, Detroit was refused recognition by the Council on Pharmacy and Chemistry because the far-reaching claims made for it were not substantiated by suitable evidence (Jour. A. M. A., Nov. 21, 1914, p. 1870).

White Sulphur Salts.—This is an effervescing salt put on the market by the White Sulphur Springs, Inc. It was refused recognition by the Council on Pharmacy and Chemistry because it did not represent the water of White Sulphur Springs, Va., as claimed (Jour. A. M. A., Nov. 21, 1914, p. 1870).

Unguentum Selenio Vanadic, v. Roemer.—This ointment, marketed by Schering and Glatz, New York, is claimed to contain selenium oxycyanid and vanadium chlorid. No evidence of the value of the preparation either in carcinoma or in any of the very long list of other diseases in which it is recommended was submitted. The pharmacologic evidence that such a preparation would be of value in such conditions being practically nil, the Council on Pharmacy and Chemistry refused recognition to the product (Jour. A. M. A., Nov. 21, 1914, p. 1870).

Iodia.—Iodia (Battle and Co.) is claimed to contain potassium iodid in combination with iron phosphate and vegetable "principles." It is extravagantly recommended for use in many and varied conditions. It is asserted to be "almost a specific" in eczema and rheumatism and "a highly efficient form of iodine." The A. M. A. Chemical Laboratory having shown that untrue statements in regard to the composition and preparation are being made, the Council on Pharmacy and Chemistry refused recognition to Iodia on this account: because unwarranted therapeutic claims were made and because the use of this complex mixture is unscientific and a detriment to the profession and the public (Jour. A. M. A., Nov. 21, 1914, p. 1871).

Narcophin.—Narcophin consists of morphin meconate and narcotin meconate in molecular proportions. It is claimed to be a scientific substitute for opium and to have advantages over morphin. The Council on Pharmacy and Chemistry was unable to accept the therapeutic claims made for it (Jour. A. M. A., Nov. 21, 1914, p. 1872).

TWENTY-FIFTH ANNIVERSARY OF THE JOHNS HOPKINS HOSPITAL 1889-1914

The entire December Bulletin is devoted to the commemoration exercises to which "all officers and former members of the hospital staff, all teachers, former members of the staff and graduates of the Training School for Nurses and all teachers and former students of the medical department of the university" were invited. We cannot give an abstract of the several addresses delivered at this reunion.

Dr. Hurd presented a tablet which had been placed in the rotunda in memory of the officials of the hospital. In his remarks Dr. Hurd said: "Not a single member of the boards of trustees of either foundations of twenty-five years ago survives."

The Bulletin contains a fine picture of Sir William Osler from Sargent's portrait presented by Lady Osler on the twenty-fifth anniversary of the hospital.

We all feel proud of Johns Hopkins University—the great work it has accomplished in the cause of medical education; we feel proud of the great men

who have served as officers and faculty; we almost feel that the history of scientific medicine in the United States dates from the beginning of Johns Hopkins Medical School.

TYPHOID FEVER IN THE BRITISH ARMY

In speaking before the Royal Society of Arts on January 22, Sir Frederick Treves stated that since the commencement of the war there had been only two hundred and twelve cases of typhoid in the British expeditionary force, and that among these cases one hundred and seventy-three had not been inoculated; there had been but twenty-two deaths and none of these had been inoculated. No deaths had occurred amongst those who had been vaccinated.

A LABORATORY COURSE FOR NURSES.

The splendidly equipped laboratory at the Milwaukee County Hospital is offering to a limited number of graduate nurses a six months' course in laboratory technique including the actual technique of the Wassermann reaction and the handling of an X-ray machine. The nurses will also be given room, board and free laundry service in the hospital.

This is a wonderful opportunity for nurses to fit themselves for private or hospital laboratory work. Applications should be made to the hospital or to Dr. L. M. Warfield, 141 Wisconsin St., Milwaukee, Wisconsin.

MAYOS GIVE MILLION FOR RESEARCH

After long consideration the Drs. William J. and Charles H. Mayo have recently consummated their plans for the endowment of the graduate medical instruction and research work which has for years been a feature of the Mayo Clinic at Rochester, Minn. The result is the incorporation of "The Mayo Foundation for Medical Education and Research, Incorporated," with an initial endowment fund of \$1,500,000. The founders are: William J. Mayo, Charles H. Mayo, Henry S. Plummer, Edward Starr Judd and Donald C. Balfour. The board of temporary trustees having in charge for the present the investment of the fund is composed of Bert W. Eaton, George W. Granger and Harry J. Harwick. The board of scientific directors is composed of Louis B. Wilson, William F. Braasch, E. Hessel Beckman, A. H. Sanford and Walter D. Sheldon. For the present the expenses of the foundation will be met by annual contributions from the Mayo Clinic, the income from the endowment being allowed to accumulate and increase the principal.—*Journal of the American Medical Association*, Feb 20, 1915.

DOCTOR FLEXNER HONORED

Dr. Simon Flexner, director of the Rockefeller Institute, has had conferred upon him by the President of France the cross of Chevalier of the Legion of Honor "in recognition of the services rendered to medical science through his own discoveries and through his admirable administration."

Iowa State Medical Society

**Sixty-fourth Annual Session, Waterloo, Ia.,
May 12-13-14, 1915.**

OFFICERS 1914-15

PRESIDENT

DR. H. C. ESCHBACH.....Albia

FIRST VICE PRESIDENT

DR. D. W. SMOUSE.....Des Moines

SECOND VICE PRESIDENT

DR. J. F. HERRICK.....Ottumwa

SECRETARY

DR. J. W. OSBORN.....Des Moines

TREASURER

DR. W. B. SMALL.....Waterloo

EDITOR

DR. D. S. FAIRCHILD.....Clinton

COUNCILORS:

1st. District—Dr. C. A. Boice, Washington.....1915
2nd. District—Dr. Henry Albert, Iowa City.....1917
3rd. District—Dr. J. C. Powers, Hampton.....1916
4th. District—Dr. Paul E. Gardner, New Hampton.....1919
5th. District—Dr. G. E. Crawford, Cedar Rapids.....1918
6th. District—Dr. J. F. Herrick, Ottumwa.....1918
7th. District—Dr. C. W. Cornell, Knoxville.....1919
8th. District—Dr. J. F. Aldrich, Shenandoah.....1919
9th. District—Dr. A. L. Brooks, Audubon.....1917
10th. District—Dr. M. J. Kenefick, Algona.....1916
11th. District—Dr. G. C. Moorhead, Ida Grove.....1915

TRUSTEES

DR. G. N. RYAN, Des Moines.....1916
DR. D. H. BOWEN, Waukon.....1915
DR. J. N. WARREN, Sioux City.....1917

DELEGATES TO THE A. M. A.

DR. J. C. ROCKAFELLOW, Des Moines.....1915
DR. L. W. LITTIG, Davenport.....1916
DR. M. N. VOLDENG, Cherokee.....1916

ALTERNATES

DR. C. S. JAMES, Centerville.....1915
DR. W. L. BIERRING, Des Moines.....1916
DR. D. H. BOWEN, Waukon.....1916

COMMITTEES

MEDICO-LEGAL

DR. D. S. FAIRCHILD, Clinton.....1915
DR. L. W. LITTIG, Davenport.....1916
DR. LEWIS SCHOOLER, Des Moines.....1917

CONSTITUTION AND BY-LAWS

DR. D. C. BROCKMAN, Ottumwa
DR. MAX EMMERT, Atlantic
DR. E. HORNIBROCK, Cherokee

HEALTH AND PUBLIC INSTRUCTION

DR. PAUL E. GARDNER,
New Hampton
DR. JEANETTE M. THROCKMORTON,
Chariton
DR. HENRY ALBERT, Iowa City

PUBLICATION

DR. J. W. OSBORN, Des Moines
DR. W. J. BIERRING, Des Moines
DR. M. J. KENEFICK, Algona

SCIENTIFIC WORK

DR. H. C. ESCHBACH, Albia
DR. W. B. SMALL, Waterloo
DR. J. W. OSBORN, Des Moines

MEDICAL EDUCATION

DR. WM. E. SANDERS, Des Moines
DR. W. W. PEARSON, Des Moines
DR. V. L. TREYNOR, Council Bluffs

BOOKS AND PERIODICALS (For the State Medical Library)

DR. GERSHOM H. HILL, Des Moines
DR. C. B. TAYLOR, What Cheer
DR. J. L. AUGUSTINE, Ladora

ARRANGEMENTS

DR. H. C. ESCHBACH, Albia
DR. W. B. SMALL, Waterloo
DR. J. W. OSBORN, Des Moines
DR. F. W. PORTERFIELD, Waterloo
DR. C. C. BICKLEY, Waterloo

TUBERCULOSIS (To investigate the advisability of forming a Society for the study and prevention of Tuberculosis)

DR. J. E. LUCKEY, Vinton
DR. H. C. SCARBOROUGH, Oakdale

DR. JOHN H. PECK, Des Moines
DR. F. W. DEAN, Council Bluffs
DR. W. J. EGLOFF, Mason City

LIBRARY (This Committee Continued from last year)

DR. W. W. PEARSON, Des Moines
DR. J. W. HARRISON,
Guthrie Center
DR. OLIVER J. FAY, Des Moines

FINANCE

DR. W. W. PEARSON, Des Moines
DR. C. P. FRANCE, Burlington
DR. C. J. SAUNDERS, Fort Dodge

PUBLIC POLICY AND LEGISLATION

DR. T. F. DUHIGG, Des Moines
DR. B. L. EIKER, Leon
DR. W. S. CONKLING, Des Moines
The President and the Secretary

HEADQUARTERS—THE RUSSELL-LAMSON

All the meetings will be held at Grace Methodist Episcopal church. The Scientific Sections in the Auditorium; the House of Delegates and the Eye and Ear Section in the lecture room; exhibits in the dining room; the council and the various committees in the smaller committee or class rooms.

Rules For Papers

No paper before the Society shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on the same subject. This does not apply to the addresses and orations.

All papers read before the Society shall be its property. Each paper shall be deposited with the secretary when read, and if this is not done, it shall not be published.

On arising to discuss a paper, the speaker will please announce his name plainly.

Please remember to REGISTER.

PROGRAM

First Day, Wednesday, May 12, 1915

9:00 a. m.

1. Call to Order by the President—DR. H. C. ESCHBACH, Albia
2. Invocation—REV. ALBERT J. NORTHROP, Waterloo
3. ADDRESS OF WELCOME—REV. J. R. MACARTNEY, Waterloo
4. Greetings for the Profession—
DR. F. W. PORTERFIELD, Waterloo
5. Response—DR. J. R. GUTHRIE, Dubuque

SCIENTIFIC PROGRAM

MEDICAL AND SURGICAL SECTIONS

Section on Medicine—

Chairman, PAUL E. GARDNER, New Hampton

Section on Surgery—

Chairman, OLIVER J. FAY, Des Moines

Wednesday Morning, May 12**9:30**

1. Non-Malignant Diseases of the Prostate—
BEN C. EVERALL, Waterloo
2. The Diagnosis of Osteomyelitis—M. J. KENEFICK, Algona
3. Life Insurance and the Doctor—
G. E. CRAWFORD, Cedar Rapids
4. Diagnosis of Surgical Diseases of the Gall Bladder—
W. A. ROHLF, Waverly
5. The President's Address—H. C. ESCHBACH, Albia
6. Diagnosis and Treatment of Chorio-Epithelioma—
J. C. ROCKAFELLOW, Des Moines

Wednesday Afternoon, May 12**1:30**

7. Ruptured Uterus in a Country Practice—
A. J. SWEZEY, Decorah
8. Indications for Caesarian Section—
WILLIAM L. ALLEN, Davenport
9. Report of the Chairman of the Section on Medicine—
PAUL E. GARDNER, New Hampton
10. Diabetes Mellitus—S. K. DAVIS, Libertyville
11. Gastrorrhagia, With Report of a Fatal Case—
T. A. MORAN, Melrose
12. Madelung's Disease, With Report of Three Iowa Cases—
E. C. McCLURE, Bussey
13. The Surgical Complications of Typhoid Fever—
VAN BUREN KNOTT, Sioux City
14. Co-Operation: What Does it Mean?—
CLINTON E. HARRIS, Grinnell

Wednesday Evening, May 12**7:30**

15. Early Acquired Spastic Paraplegia Associated With Hypothyroidism and Ichthyosis, With Report of a Case—
TOM B. THROCKMORTON, Des Moines
16. The Etiological Factors in Uveal Tract Diseases and the General Examinations Required to Determine Their Presence and Decide Upon the Treatment of the Lesions They Produce—GEORGE E. DE SCHWEINITZ, Philadelphia

First meeting of House-of Delegates immediately on adjournment of evening meeting.

Thursday Morning, May 13**9:00**

17. The Surgical Treatment of Old Gonorrheal Infections in Women—S. A. SPILMAN, Ottumwa
18. Conservative Excision in Sarcomata of the Long Bones—
JAMES FREDERICK CLARKE, Fairfield
19. A Study of Internal Secretions, a Possible New Era in Medicine—C. H. CHURCHILL, Ft. Dodge
20. The Classification and Treatment of Chronic Splenic Tumor—W. E. SANDERS, Des Moines
21. The Effects of the Compensation Law on the Profession—
D. S. FAIRCHILD, Clinton
22. A Series of Brain Operations—A. M. POND, Dubuque
23. Address of the Chairman of the Section on Surgery—
OLIVER J. FAY, Des Moines
24. Surgical Treatment of Hyperthyroidism—
C. A. ROWAN, Iowa City

Thursday Afternoon, May 13**1:30**

25. The Relation of Appendicitis to Other Intra-Abdominal Lesions—N. SCHILLING, New Hampton
26. Roentgen Studies Relating to the Causation and Treatment of Constipation—JAMES T. CASE, Chicago

27. Address on Surgery—Some of the Later Adaptations of Gastro-Intestinal Surgery—C. A. L. REED, Cincinnati
28. Arthroplasty from the Clinical and Experimental Standpoint—ARTHUR STEINDLER, Des Moines
29. Pelvic Neoplasms in Pregnancy—
LAURA H. BRANSON, Iowa City
JESSIE B. HUDSON, Clinton
30. Pregnancy and Tuberculosis—ADDISON C. PAGE, Des Moines
31. What is the Matter With Us?—J. E. LUCKEY, Vinton

Friday Morning, May 14**9:00**

32. The Use of Lane's Plates in the Treatment of Fracture of the Femur—F. M. TOMBAUGH, Burlington
33. Oration on Medicine—F. C. MEHLER, New London
34. Infection—FRANK T. HARTMAN, Waterloo
35. The Diagnostic Importance of Blood Examinations—
V. L. TREYNOR, Council Bluffs
36. Oration on Surgery—T. E. POWERS, Clarinda
37. Early Diagnosis in Carcinoma of the Uterus—
G. T. McCULLIFF, Webster City
38. Preliminary Report of the Health of Women Students in the Colleges of the State—
JEANNETTE F. THROCKMORTON, Chariton

SECTION ON OPHTHALMOLOGY, OTOTOLOGY AND RHINO-LARYNGOLOGY**Wednesday Evening, May 12, With General Meeting****8:00**

1. The Etiological Factors in Uveal Tract Diseases and the General Examinations Required to Determine Their Presence and Decide Upon the Treatment of the Lesions They Produce—GEORGE E. DE SCHWEINITZ, Philadelphia

Thursday Morning, May 13**9:00**

2. Odds and Ends—CHAS. P. FRANTZ, Burlington
3. Diseases of Eye and Ear as Influenced by General Conditions or Diseases of Other Organs—
F. E. AGNEW, Independence
Discussion—H. B. Gratiot, Dubuque
4. Recurrent Corneal Ulcers—LILY KINNIE, Dubuque
Discussion—J. E. Graham, Ottumwa
5. Detail of Worth Muscle Exercises and Other Treatment for Strabismus—C. C. WALKER, Des Moines
Discussion—W. B. Small, Waterloo
6. The Extrinsic Muscles in Refraction—
H. M. IVINS, Cedar Rapids
Discussion—G. F. Harkness, Davenport
7. Results of the Elliott Trephine Operation—
R. H. PARKER, Des Moines
Discussion—L. W. Dean, Iowa City
8. Differential Pathology of Ocular Sarcoma and Glioma—
W. J. BUSSEY, Sioux City
9. Disease of the Maxillary Antrum—
W. H. JOHNSTON, Muscatine
Discussion—H. D. Fallows, New Hampton
10. Intranasal Treatment of Frontal Sinus Disease, Operative Technique and Indications For—
EDWIN COBB, Marshalltown
Discussion—E. H. Knittle, Waterloo
11. Foreign Bodies in the Air Passages—
F. H. Roost, Sioux City
Discussion—F. W. Bailey, Cedar Rapids

HOUSE OF DELEGATES

Meeting Place—The Lecture Room, Grace M. E. Church

Wednesday Evening, May 12

(Immediately on the adjournment of the general sections)

Roll Call
 Report of Secretary
 Report of Treasurer
 Report of the Council
 Report of Standing Committees
 Memorials and Communications
 New Business
 Election of Committee on Nominations

Thursday Morning, May 13

8:00

Roll Call
 Reading of Minutes
 Report of Committees
 Unfinished Business

Friday Morning, May 14

8:00

Roll Call
 Reading of Minutes
 Report of Committee on Nominations
 Election
 Unfinished Business
 Report of Committees

State Society Iowa Medical Women**OFFICERS**

1914-15

PRESIDENT

DR. KATE HARPEL.....Boone

FIRST VICE PRESIDENT

DR. JEANNETTE THROCKMORTON.....Chariton

SECOND VICE PRESIDENT

DR. MARY HEARD.....Iowa City

SECRETARY

DR. MARGARET ARMSTRONG.....Des Moines

TREASURER

DR. GRACE F. JERGER.....Waterloo

PROGRAM

Meeting at the New Russell-Lamson Hotel,
 Waterloo, Iowa.

Tuesday, May 11, 1915

9:00 a. m.

Business meeting; reports of officers; communications; reports of district chairmen; report of the extension work, by Dr. Florence Brown-Sherbon; medical clinic, in charge of Drs. Grace F. Jerger and Jessie Hudson.

1:30 p. m.

Address of Welcome—REV. EFFIE JONES-McCULLON, D. D.

Response—DR. CLARA WHITMORE

President's Address—DR. KATE HARPEL

Influence of Defective Vision on the Play Life of the Child—

DR. MARY K. HEARD

Discussion led by Drs. Lillie Kinnier, Martha Welpton, Turana Dulin and Nelle Noble

The Menopause—DRS. LAURA BRANSON and JESSIE B. HUDSON

Discussion led by Drs. Evalene Peo, Mary Killien, Julia M. Donahoe and Ida G. Rhoads

Medical Women's Contribution to the Education of Mothers—

DR. MARGARET V. CLARK

Discussion led by Drs. Pauline Hanson, Jennie Ghrist, Alice Stinson and Adele R. Graenning

Round Table: Anesthetics in Labor—DRS. GRACE F. JERGER, CLARA CRONK, KATE A. HOGLE, SOPHIA H. SCOTT, AGNES EICHELBERGER and MARY A. COVENY

Election of Officers

8:00 p. m.

Reception by the Woman's Club of Waterloo

ENTERTAINMENT**Wednesday, May 12**

3:00 p. m.

Auto Ride to the Ladies.

Thursday, May 13

1:30 p. m.

Luncheon—Informal at the Russell-Lamson to the Ladies by the Wives of Members of the Waterloo Medical Society.

4:30 p. m.

Auto Ride to the Doctors and Their Wives, by the Commercial Clubs and the Waterloo Medical Society.

8:00 p. m.

Theater Party at the Plaza to the Doctors and Their Wives by the Commercial Clubs and the Waterloo Medical Society.

9:30 p. m.

Smoker at Elks Hall by the Commercial Clubs and the Waterloo Medical Society.

Notice

The Fellows or Ladies wearing the white badge on which is a Red Cross and Waterloo, is an invitation to every one to ask them anything he wants.

SOCIETY PROCEEDINGS

The regular March meeting of the Appanoose County Medical Society was held at the Drake Free Public Library on Wednesday evening, the 31st ult. The program was:

"The Requirements of the Harrison Law for the General Practitioner," C. F. Morgan of the Red Cross Drug Co.

"Criticisms and Suggestions for the Conduction of Our Medical Society," Dr. W. L. Downing, Moulton, Iowa.

"The Ten Most Frequently Used Drugs in My Practice and the Indications for Their Use," Dr. L. J. Sturdivant, Cincinnati, Iowa.

Report of two cases, "History" and "Clinical Findings for Discussion With Report of Autopsy Findings."

The Appanoose County Medical Society met Wednesday, April 28, at 7 P. M. in the society assembly room of Drake Public Free Library and the following program followed:

How I Conduct Normal Labor—Dr. William Harris, Iconium.

When and How I Apply Forceps—Dr. N. W. Labagh, Mystic.

Obstetric Aids I Use Other Than Forceps—Dr. W. J. Fenton, Mystic.

Care of the New Born Infant—Dr. L. L. Lugar, Mystic.

The Dallas-Guthrie County Medical Society met at Panora, Iowa, Thursday, April 15 with the following program.

Acute Otitis Media—Dr. S. P. Free.

Paper—Dr. W. R. McGrew.

The Dope Fiend, the Doctor and the Harrison Law—General Discussion.

The Marion County Medical Society met in Tracy Thursday, April 8th, Dr. Carl Aschenbrenner, president, in the chair. Members present: Drs. C. Aschenbrenner, C. N. Bos, Pella; J. W. Anderson, E. C. McClure, Bussey; L. E. Park, Tracy; Wm. H. Daniels, Hamilton; A. E. Reiter, Everist; C. E. James, Durham; H. L. Bridgman, Columbia; Carl Mulky, J. R. Wright, C. S. Cornell, E. R. Ames, C. W. Cornell, Knoxville. Visitors: Dr. H. C. Eschbach, president of the Iowa State Medical Society, Albia; Dr. J. J. Sybenga, Leighton; Dr. E. T. Warren, Pella; Dr. E. T. Warren was elected a member of the society. Dr. Carl Mulky's paper: Presentation of a Case of Aortic Aneurism, was fully discussed by all of the members.

At one o'clock the society adjourned for luncheon. The ladies of the M. E. church served an elegant luncheon in the basement of the Odd Fellow's hall. It was served in a first class manner.

At 3:30 the society met in afternoon session. The rain interfered with the attendance, as several of the doctors were in attendance in their cars, they "hiked out" on account of the rain.

Acute Cholecystitis, Dr. A. E. Reiter's paper was read and discussed, the general conclusion was, that, in the larger proportion of cases of diseased gall-bladders the treatment is surgical.

Hepatic Cirrhosis, Dr. Wm. H. Daniels' paper was read and fully discussed.

Discussion of Diagnosis of Small-pox and Chicken-pox, Dr. Bos' paper, caused a great amount of discussion by all the members.

On invitation of the Pella doctors, the society will meet in Pella, June 10, 1915.

The Polk County Medical Society had on April 27th this program:

Congenital Pyloric Stenosis—J. T. Strawn, M. D.

Modern Treatment of Fractures of the Long Bones from an Orthopedic Viewpoint with Clinical Observations and Conclusions—J. W. Cokenower, M. D.

Drs. Lewis Schooler, J. W. Cokenower and Edward Posner were elected alternates to the house of delegates.

The delegates from this society are: Drs. W. E. Sanders (hold over), R. A. Weston and W. S. Conkling.

On April 23d the Winneshiek County Medical Society had for its program: Obstetric Deaths, Swezey; Public Health, Editor Biermann; Medical Legislation, Senator Enger; Sore Gums and Tontils

as Causes of Systematic Diseases—Parasitic and Other Causes, Dahl and Thomas; Dental resources, Hutchinson; Medical Resources, Barfoot and Boe; Prevention, Topliff.

The regular meeting of the Pottawattamie County Medical Society was held in the Grand Hotel, Council Bluffs, Iowa, April 6th.

A very appetizing luncheon was served at 12:15 after which a most excellent program was rendered.

Dr. J. M. Barstow read a paper on Paresis, with special reference to that legal phase of the subject, "When Does a Patient Become Incompetent."

The doctor's rich experience with this class of cases enabled him to discuss the subject in a manner that was especially interesting to the society.

Dr. A. V. Hennessey read a paper entitled, "Frequency of Vesical Hernia Complicating Inguinal Hernia, With Report of a Case." The doctor's paper was well written and the case report was thoroughly enjoyed by the society.

Dr. E. A. Merritt read a paper, "Intestinal Stasis," discussing the newer methods of diagnosis and treatment of this condition and calling attention to the great train of symptoms produced by the absorption of toxines from this ailment.

Dr. Donald Macrae gave a talk on Appendicitis with special reference to the use of laxatives in this condition. The doctor also made a few remarks on Osteomyelitis calling special attention to the necessity of making an early diagnosis in order to ensure the best results.

Dr. F. W. Dean reported nine cases of Ulcer of the Cornea Following Small-pox, placing emphasis on the fact that this class of ulcers are very slow in healing, sometimes continuing four or five months.

The spirit of the meeting was excellent, the president H. B. Jennings, finding it necessary to limit the discussions in order to finish the program.

Our next meeting is to be better. Grant Augustine, secretary.

The regular monthly meeting of the Clinton County Medical Society was held at the LaFayette Inn, Clinton, Friday evening, March 19th. After a 6 o'clock dinner the following papers were read:

"Some Post Operative Complications," Dr. J. R. Guthrie, Dubuque.

"New Observations on Contagious Diseases," Dr. H. R. Sugg, Clinton.

The Scott County Medical Society on March 2d held its first meeting at the Black Hawk Hotel, Davenport. The program follows:

"Diagnosis and Prognosis of Gastric Ulcer," Dr. Frank Smith, Augustana Hospital, Chicago.

"The Use of Digitalis," Dr. S. G. Hands, Davenport.

MARRIAGES

Dr. Edward M. Victorine, of Cedar Rapids, Iowa, to Miss Fern R. Smith, of Marble Rock, Iowa, April 15th at Iowa City.

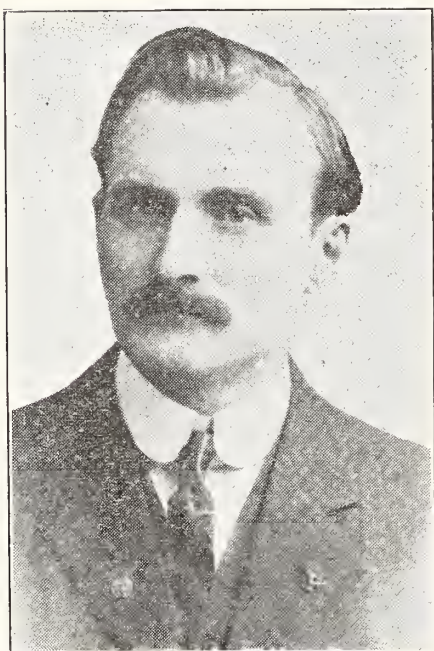
Thomas F. Thornton, M. D., Waterloo to Miss Veronica Finley, Ferryville, Wisconsin, April 14th.

W. K. Long, M. D., to Mrs. Ida Mitchell, both of Hampton.

BIRTHS

Dr. and Mrs. A. D. Smith, Mason City, April 9th, a son.

In Memoriam



Dr. Clarence M. Swale, one of the leading surgeons in Iowa died at his home in Mason City, Iowa, March 21, 1915, of streptococcic infection. His last operation was on March 12th, a caesarean section which was the fifth of its kind he had performed and in all of these operations he saved both mother and child. He had a mild attack of tonsillitis about March 1st and it is supposed his infection was of tonsillar origin.

Dr. Swale was born July 5, 1871, in Fayette county, Iowa, and was the youngest of thirteen children. He attended the high school at West Union, after which he attended for two and one-half years the Upper Iowa University at Fayette. He was fond of athletics and while at the University of Fayette he earned his way by teaching, boxing and other athletic games. Beginning his career as a boy of seventeen he taught school for

two years. In 1892 he entered Rush Medical College. Between the terms at Rush he assisted Dr. C. W. Oviatt at Oshkosh, Wisconsin. He graduated in 1895 at Rush Medical College and for one year after he was an intern in Alexian Brothers' Hospital in Chicago.

Locating in Mason City in 1896, Dr. Swale had built up an extensive practice in this part of the state winning an enviable reputation as a surgeon. His extensive medical knowledge and keen sense of fairness made him a safe and valuable consultant and a desirable witness in matters of litigation. He was also a thorough business man and was three times chosen a member of the city council. He made several contributions to medicine and surgery, one a successful operation for chylcyst of which there are but a few on record.

Dr. Swale was the heaviest stockholder in the new Park Hospital of which he was chief surgeon. He was local surgeon for the Chicago, Milwaukee & St. Paul, Chicago Great Western and the Mason City and Clear Lake railways.

In 1905 he married Lillian Garmidge. To this marriage one son, Douglass G. Swale, was born, now nine years old.

Dr. Swale was a member of the Austin Flint-Cedar Valley Medical Society, the Cerro Gordo Medical Society, the Iowa State Medical Society and the American Medical Association.

The Cerro Gordo County Medical Society adopted the following Resolutions:

Whereas, It has pleased God, in His infinite wisdom, to remove from our midst our beloved friend and co-worker, Dr. Clarence M. Swale, who was one of the organizers of this Society, and who has been ever since an active member, distinguished by his professional ability, fair-mindedness and good fellowship,

Therefore, be it Resolved, That we extend our heartfelt sympathy and deepest regrets to his grief stricken family, and that we hereby instruct our secretary to transmit a copy of this Resolution to them.—F. G. Carlson, M. D., Secretary.

Henry Carrol Conley, M. D., University of Maryland School of Medicine 1885, formerly a practitioner at Boone, died at Tunnelton, West Virginia, after a short illness, April 1.

George W. Loar, M. D., Physio Medical Institute. Cincinnati, 1868, a resident of Monroe for nearly fifty years, died at his home March 23, aged seventy.

William H. Carter, M. D., American Medical College, St. Louis, 1880, President, Iowa State Electric Society, for many years a practicing physician in Polk county, died at his home in Altoona from heart trouble April 11, aged seventy-six.

CHANGES OF LOCATION

Dr. F. J. Swift, of Clinton, is removing to Maquoketa.

Dr. W. A. Grigsby, of Muscatine, is removing to Washington.

Dr. J. A. Thompson, of Onawa, has associated with him in practice Dr. F. J. Scheffler who has been in the government service in South Dakota.

Dr. J. F. Auner, of Waverly, has sold his practice to Dr. Francis R. Sparks, of Westgate. Dr. Auner and family go to California for several weeks stay.

Dr. C. A. Ayres, of Peoria, has purchased the practice and equipment of Dr. J. J. Sybenga, of Leighton. Dr. Sybenga will associate himself with Dr. F. F. Carpenter at Pella.

Dr. D. O. King, of Eldora, who recently went to Hampton has returned to Eldora for permanent practice. Dr. King has been doing special work in Chicago and is now pursuing special work at the Methodist Hospital, Des Moines.

After several years of practice at Durango, Colorado, Dr. E. E. Hobby returns to his former home at Iowa City where he will continue his practice.

Dr. Lester Dickman who has been in New Mexico for some time has located at Sumner.

Dr. F. L. Smith, of Monroe, has removed to Newton.

Dr. E. R. Jenkins, of Washington, has returned from a six week's trip to Florida.

Dr. W. A. Bates, of Endfield, Maine, is associated in practice with Dr. J. H. Lowrey, of Neola.

Dr. Wm. P. Hombach who has been associated in practice with his father at Council Bluffs is now located at Remsen.

Dr. J. H. Phillips, of New Sharon, has sold his medical practice to Dr. G. E. Bartlett.

MEDICAL NEWS

Dr. I. N. Busby, of Brooklyn, has returned from his winter's visit in California.

Dr. John B. Heles, of Dubuque, recently underwent an operation for appendicitis.

Dr. Wm. L. Thompson, of Bayard, is slowly recovering from an attack of erysipelas.

Shades of Charley Miller, Waverly has elected Dr. F. A. Osincup mayor. Who-o-ee!!!

Dr. George Royal, of Des Moines, while cranking his automobile suffered a broken wrist.

Dr. George William Behrens, of Nemaha, received a dislocated shoulder as a result of a fall.

Dr. F. P. Hanaphy, of Augusta, is suffering from a fractured arm, the result of cranking his car.

Dr. J. H. Shipley, of Rippey, had the misfortune recently to dislocate his elbow in an automobile accident.

Dr. E. R. Ames of Knoxville, has been taking treatment at the Methodist Hospital, Des Moines for lumbago.

The friends of Dr. T. F. Kelleher, of Des Moines,

will regret to learn that he has been taken to Battle Creek, Michigan, for treatment.

Dr. F. S. Abbott, of Wilton, received several bruises and a broken collar bone when his Ford car turned a somersault recently.

Dr. Lee Shafer, of Walcott, suffered three broken ribs and his wife received severe injuries when their automobile turned turtle on the river to river road near their home.

Dr. L. C. S. Turner, of Colfax, has been taken to Mt. Pleasant for treatment. The affliction of Dr. Alice Turner at this time makes the situation very sad and much sympathy goes out to her and the family.

The city council of Red Oak has recently abolished the office of city physician, of which Dr. L. A. Thomas was the incumbent, and gone back to the old city health officer, and Dr. O. S. Reiley has been elected to this office.

At a recent meeting of the Scott county board of supervisors, it was decided that the city physician should receive an increase in fees for the care of small-pox patients. In the past the city physician has received \$5 per day no matter how many cases were under quarantine. In the future the physician will receive \$10 per day for every day he attends to forty cases or more and \$5 per day when there are less than forty cases.

Our good friend Roberts, of Oskaloosa, has kindly sent us a marked copy of the Oskaloosa Times. We have known for a long time that the physicians in Mahaska county were live wires. To instance their influence read the following from the Oskaloosa Times of April 16th.

The Times' Spring Tonic

The Times is going to take a spring tonic this year, and clean up and tone up its system. Not that the Times is in a bad way, for rather it is healthy and lusty, but because the editor has come to the conclusion that its blood needs purifying.

Advertising is the blood of the paper, and the doctor's prescription calls for the adoption of a new policy by which all advertising for patent medicines shall be refused.

No more contracts for patent medicine advertising will be entered into by this paper. As rapidly as possible those now carried will be discontinued.

The Times has been the cleanest, brightest, newsiest paper published in Oskaloosa for a long time. It has exercised a strict censorship over its news columns and has always refused questionable or suggestive advertising. But the fact that it printed any patent medicine advertising has been the fly in the amber.

The very principal of self dosage is a menace to public and private health.

The human organism is far more delicate than the finest jeweled watch. And who would think of tinkering with a watch?

Ignorance tinkering with a watch can break but one watch.

Ignorance tinkering with the human system can spread death to a hundred households.

The Times is taking its new spring tonic because it believes that when a person is feeling poorly, if exercise, fresh air and simple foods do not remedy the difficulty it is time to call in a doctor, and the best doctor one can get.

There are other reasons, less important relatively to the question of human life, but important enough to banish patent medicine advertising from these columns if nothing else were to be considered.

A vast bulk, probably a vast majority of the patent medicines are composed largely of alcohol. In many cases their only appreciable therapeutic effect is that of alcohol or some other narcotic. Often so-called medicines containing alcohol are advertised as remedies for diseases where alcohol is injurious or fatal. They are a menace to health and morals. The Times hasn't time to investigate all medicines that offer their advertising and determine their value. The best way and the most effective, is to refuse space to them all.

Competent analysts have revealed that most so-called remedies which may be classed as having some trifling therapeutic value are sold at a price entirely out of proportion to their value, as for instance, five cents worth of Epsom salts will do more good than a dollar bottle of Dr. Quack's "Quax" a "cure" for appendicitis.

In order to be fair to its patrons the Times must put its foot down upon fakirs and extortion, and refuse to permit its readers to be exploited.

The final reason which is of itself sufficient is this: The Times has always been the cleanest paper in Mahaska county. It is pre-eminently the home paper. It has always been in the front of progress and it has always set the pace. It is a matter of pride with the Times that it shall continue in that position and by this new policy shall point the way for its less progressive contemporaries to better health and cleaner journalism.

The Times spring tonic will be a little expensive at first, but the Times is confident that it will be repaid for the taking by a better feeling and a greater opportunity for service to the people of Mahaska county.

AMERICAN MEDICAL ASSOCIATION

The American Medical Association, meeting in San Francisco, June 22nd to 24th, promises to be one of the largest and best in the history of the Association, and its program replete with modern and up-to-date scientific subjects, and the entertainment committee has prepared side trips and entertainments of various kinds, independent of the attractions of the Panama-Pacific International Exposition, which will make our trip an exceedingly attractive one.

Hotels

The Palace Hotel, which will be the headquarters for the American Medical Association, has been

made headquarters for the Iowa delegation, with a limited number of reservations, but owing to the rate, cheaper and centrally located accommodations were made at Hotel Senate, Turk street at Larkin, and Hotel Carlton, 545 Turk street, at \$2.50 and \$3.00 a day, two in a room, European plan. These two hotels are close together, within two blocks of the civic center and Auditorium and on the main street car line to business and civic centers and Exposition and the congested condition of the hotels, on account of the Exposition, should prompt early request for reservations to the hotels direct or the undersigned.

The Universal Bus and Taxi Co. has been selected by the San Francisco A. M. A. entertainment committee, with a 25c charge a person, including ordinary hand baggage.

Rates

The following will be the round trip rates, returning limit three months, including a side trip to San Diego, provided this is included in the ticket when purchased, otherwise not, and no extra charge returning the southern or central routes, but \$17.50 extra returning by way of Portland, Seattle or Vancouver. Round trip rates from Iowa will be, Clinton, \$60.61; Davenport, \$59.25; Dubuque, \$62.50; Cedar Rapids, \$59.20; Marshalltown, \$57.84; Des Moines, \$55.68; Sioux City, \$53.90; Keokuk, \$59.25; Ottumwa, \$57.84; Creston, \$53.28, and Council Bluffs, \$50.00, and other towns over the state proportionately. Sleepers will be from \$11.00 to \$12.50 for double lower berths. Uppers, 20 per cent less and compartments and drawing rooms the usual extra rate. The complete round trip itinerary should be decided upon before purchasing ticket.

Route

Our Iowa sleepers will be added to the American Medical Direct Special from Chicago, on which will be, not only the Chicago doctors, but many from the east, which will give our Iowa delegation an opportunity to visit enroute. The roads selected will be the Northwestern, Union and Southern Pacific and the train will go through without change, leaving Chicago 5:00 P. M. Friday, June 18th, and passing through Iowa same evening and night and arriving in San Francisco, Monday morning, June 21st at 11:00. Iowa sleeper No. 1 will pass through and leave Clinton at 9:00 P. M. June 18th, Cedar Rapids 10:45 P. M. and Marshalltown 11:30 P. M. and sleeper No. 2 will leave Des Moines 9:30 P. M. and the train leave Omaha 6:00 A. M. June 19th and sleeper reservations can be made and taken any place most convenient, even at Council Bluffs or Omaha and reservation should be made direct to the Northwestern ticket office in Des Moines or undersigned.

Accommodations

The American Medical Direct Special will be a solid steel Pullman train, with plenty of diners and observation car and we have the promise that nothing will be left undone to make the trip enjoyable and exceedingly pleasant.

J. W. COKENOWER,
Chr. Com. Transportation.

The Journal of the Iowa State Medical Society

Vol. V

DES MOINES, IOWA, JUNE 15, 1915

No. 6

ADDRESS OF THE PRESIDENT

H. C. ESCHBACH, M. D., F. A. C. S., Albia

With each annual meeting of this Society it has been the time-honored custom and privilege of the presiding officer to address its members on the important living issues of the organization, as they have appeared to him.

But first of all, I wish to express, or try to express, my sincere appreciation of the great honor you conferred on me in selecting me as your presiding officer one year ago, an honor unsought and unsolicited and unexpected by me, and for that reason the more precious and more appreciated.

As early as possible, after entering the profession in Iowa, I sought and obtained membership in a County Medical Society. Within the year I obtained membership in the Iowa State Medical Society. From that time to this, I have never missed a meeting of any medical society of which I was a member,—and there have been many others,—unless compelled to by the necessities of an exacting practice. I have never had any reason to regret this, because many of the helpful hints I have received for conducting my work have been obtained by attendance on these meetings.

I was happy in my association with medical society men. I deemed myself fortunate in being asked to present papers and discussions before county societies, district societies and finally before the state society, not because I could give anything to the Society, but because it gave me the opportunity to receive so much. Later, I was happy when I was appointed on committees and given a place in the working force of the Society, not because I was thus contributing any great sum to the good of the Society, but that I was being brought into closer contact with the big brained men of the Society and was always receiving more than I could give.

Purely selfish motives, do I hear you say? I admit it and without shame. I was so happy in this association and membership in this great Society that the idea of receiving this great office never occurred to me.

But it came, thanks to your generosity and forbearance, and while I cannot hope to equal the high standard set by many of my distinguished predecessors, I hope you will believe me when I say I have tried to carry out, to the best of my ability, the duties prescribed by our constitution and that in giving of my poor service in the past and in all the future that may be allotted me, in any capacity required of me, I can never hope to repay the membership of the Iowa State Medical Society for this distinguished honor you have bestowed on me, nor for the benefits I have reaped by my membership in this Society.

The duties of my office I have learned to carry with real pleasure, because of the generous co-operation of my fellow officers and members. And the response of those whom I have appointed to chairmanships of sections and of the various committees, has at all times been most cordial and helpful.

-Because of this helpful co-operation on the part of the chairmen of sections, it has been possible to publish in our Journal the entire program of our meeting in the March issue—two full months before our meeting—an important item,—as it gives every member of the Society ample time to study up the various topics of the program and be prepared for their intelligent discussion. For this feature I am under special obligation to the prompt and energetic action of our section chairmen.

OUR SOCIETY

I deem myself fortunate in having had membership in our Society many years before the reorganization, and to have been present and a part of the somewhat strenuous times attending the reorganization in 1903. The reorganization was attended with some display of ill feeling at the time, on the part of some members, and with some misgivings as to its propriety on the part of others and with genuine enthusiasm on the part of a bare majority of its membership,—then numbering but six hundred,—only four hundred of whom were said to be in good standing.

Sufficient time has now elapsed to prove the wisdom of the plan. From a society of less than six hundred members to one of over two thou-

sand members, is some indication of progress. But this is not enough. With approximately thirty-five hundred physicians eligible for membership, our roll should be much larger. Not that I would advise the sacrifice of quality for quantity; not that we merely need the increased membership, but because it is deplorable that there are still so many physicians practicing in Iowa who do not yet feel the need of the good offices of the Society.

THE COUNTY SOCIETY

The county society is the doorway of entrance to the state and American medical organizations. Being the unit of our federation, the way to membership in it should be made as easy as possible. Not sacrificing principle to increase membership, but not permitting mere personal prejudices to keep out those who might wish to enter and might make live members when once admitted.

It seems scarcely credible that in a profession of broad and humanitarian purposes, it should be thought worth while to even call attention to a matter of personal prejudice. But in certain communities the condition is said to prevail that men who would gladly avail themselves of the good offices of the organization are kept from joining because of their feeling of antipathy for certain members of the local society, or because of the prejudice of members of the Society against them and the use of their influence against their election as members.

Speaking for myself alone, I cannot imagine a county medical society in which any member or group of members could by their mere presence at the meetings—or by their membership in the Society make me willing to forego the benefits I have always derived from attendance on Society.

I should have to feel greater hatred for such physicians than I have ever felt for any man on earth before I should allow the possibility of such brief companionship with them to lose for me the good things I have always received from my membership and attendance on medical societies.

But one thing could keep me from meeting with a county medical society and that would be a complete abandonment by it of the principles for the furtherance of which our organization was founded,—viz.: the improvement of the personnel of the medical profession and through them the improvement of the health and well-being of the communities in which they exist.

The county society is the greatest factor in the improvement of the personnel of the profession.

The standards of medical education have been gradually raised, not by any clamor from the outside—from the public,—but raised by the persistence of the medical profession itself, looking toward higher ideals.

Yet, in spite of these higher standards; in spite of these exalted ideals, there are and always will be laggards in the ranks, who need the constant spur and stimulation of association with their fellows to keep them from becoming a menace rather than a blessing to the communities they are trying to serve.

The possibilities offered by the county society to the progressive physician or to the potential laggard, of keeping alive to the advances made in medicine, are greater than are fully appreciated by those who do not care for membership, or having membership, attend meetings only occasionally.

By meeting one's competitors at stated meetings during the year, besides the mental stimulation by reading papers and the discussions of the same, hearing reports of cases and exhibition of new methods and suggestions of new theories, there is the rubbing of shoulders together, and the social attrition that comes from such co-mingling, the better understanding of one's fellows that comes from better acquaintance, all of which should and do increase our pride in membership in one of the noblest callings of any of the so-called learned professions.

But more than this, organization means discipline. It is the outward expression of the spirit of co-operation among individuals. If the motives are right, the ideals high, the methods just, the organization is not only valuable in itself and to itself, helpful and strengthening to its individual members, but valuable and useful to humanity.

And this we claim for the medical organization, that its primary aims and purposes are broad and humanitarian.

It aims at a higher level of effectiveness of the membership of the medical profession and through this higher level and effectiveness of the individuals of our profession, the extending of the work of preventive medicine and of sanitary science and thus increase not only the longevity of our race, but increase its usefulness by lessening its morbidity.

The county society by availing itself of the means of post-graduate study, now made possible through organization, or various modifications of it adapted to the various communities, can keep well abreast of the progress in medical and sanitary science, and give to their communi-

ties the results of the freshest and best research work of our times.

In fact, it is only by good work in the county society that the ultimate aims of our organization can be realized. Every advance in sanitation that has been made in the past, represents years of unselfish labor on the part of the medical profession, or some of its advanced members. Every advance to be made in the future, will also depend on them.

Through all the ages we find here and there individuals,—strong, rare men—who worked on alone, performing wonders in investigation, and today are regarded as marvels of their age. But the results of their labors were slow in coming to the knowledge of the world and their fame was largely and in some cases entirely post-mortem. How much more these men might have accomplished had they been associated with others in their work, can only be conjectured, but it is safe to say their benefactions to the world would not have been hindered, but helped and hastened.

Individual effort and a somewhat desultory movement at united effort has always accomplished so much, what may we not hope from a wholly united effort, in the direction of preventive medicine and sanitation?

It is a well known observation that the average man, no matter what his calling, needs a strong incentive to keep him up to anything like a maximum output of his best work. The necessity for a motive to effort is just as imperative, if not more so, in the case of the scientific or intellectual worker, as in that of the industrial worker.

Organization furnishes this motive, incentive or spur to work. It arouses the intelligence and dormant faculties, and reawakens the whole man to the responsibility of industry through the keenness of competition.

The chief factor in the success of every man, of course, in every field of labor, must always be his own individual qualities and abilities, but the greater aid will also be found in the power of acting in combination and association with others. Thus may our individual mistakes be corrected and our individual successes be given additional power and energy.

Organization is directed not only to the survival of the fittest, but much more than that, it is directed to the fitting of as many as possible for survival.

In the county society is the place where your efforts will bring you the best returns. The young man will find here his kindergarten. Here he may offer his contributions on new methods and results of recent research, interesting and

instructive always to the older members. From his training here and discussions thereon—call it, “trying it on the dog,” if you like, but it brings confidence and encouragement,—he may carry his papers to the district and state societies and to the sections of the American Medical Association.

The study necessary to prepare a paper for society discussion helps him to fix in his mind his own thoughts and convictions, the observations of the authorities and the interpretation of other minds taking part in the discussions.

The older members can give their observations and more extended experience and encourage and stimulate the newer members to greater and better work.

None—young or old, tyro or teacher—can afford to despise the opportunities offered in this democratic organization,—the county medical society.

However high a physician may rise in his profession, he cannot afford to neglect his county society, nor his brethren in it. The weaker his brethren, the greater his obligation to work there among them and make his society better and more useful to them and the community.

The words of Bacon are as true today as when written; “I hold every man a debtor to his profession; from the which as man do seek to receive countenance and profit, so ought they of duty endeavor themselves by way of amends be a help and ornament thereunto.”

So I hold that every physician, no matter how great his eminence, owes more to his profession than the profession owes to him.

Holding every man a debtor to his profession, I claim that he is only discharging part of this debt by doing active work in his county society, exchanging,—giving and receiving—of the general store of knowledge gained in investigation, observation and experience, and thus aiding in the general advance of the profession and rendering less evident the lack of training and general information prevailing in the ranks.

If the educational value of the medical society could only be realized by those most in need of it, the attendance would include the entire roll of eligible physicians of every county. Apathy, indifference and intellectual laziness are always the foes of medical progress.

The important part of a physician's training is yet to come after he has received his diploma. This comes from the systematic reading of books and journals, the observation of patients, and important as all other sources combined, from the association with medical men.

In its truest and best sense, this is attained by regular attendance at meetings of medical societies, and when a physician thinks he can learn nothing at a medical society he has reached a stage of self-satisfaction that is opposed to his own interests and the interest of the community he is pretending to serve.

When a physician says he had rather stay at home than attend a medical meeting and listen to a paper by young Dr. A....., or one by old Dr. B....., because he can spend that time more profitably in reading all this in Osler or Keen or Kelly, who have said the whole thing much better; I often wonder whether he really does spend that time in such reading. My observation confirms me in the belief that the men who are reading their Osler's and Cabot's, their Keen's and Kelly's and all other good medical reading, are the men who seldom miss a meeting of a medical society and are able to tell you what Cabot or Kelly or other authorities have said on the questions under discussion, in a way that would surprise the apathetic individual who begrudges the time necessary for attendance.

It is not lack of time that usually keeps men from attendance, the busiest men are the regular attendants. It is usually indifference, apathy or petty prejudices or a supreme self-satisfaction which betokens a lack of recognition of what is owing to self, the profession and most of all to the community.

The individual physician loses his capacity and efficiency for service to the public about in proportion as he lessens his vital contact and co-operation with the body of the profession. His active service in his local medical society is usually a fair gage of his usefulness as a physician in his community.

That the public appreciates to some extent the services of a man who is a member of his county medical society, and that the physicians in general realize this appreciation is shown by the large number of men who join the medical society and pay their dues, but do not attend the meetings or take any active part in the work every county society tries to do and should do for the betterment of the community. They cannot afford to have the community know they do not care to be identified with the society and hence they maintain a formal connection.

They are our dead heads, that we carry and tolerate but neither the society nor themselves are receiving any benefits from their membership. Perhaps I should have said, they are our "dead ones." Personally I have always considered them "dead ones," and have felt that some one should tell them so, for as a rule, in their smug self-

satisfaction, they do not know it. Hence, I take this occasion to thus publicly announce their demise.

It has frequently been stated that a live county secretary can by his personal activity and diplomacy build up a county society. It is true that a live secretary can do much toward creating a lively interest in society matters. But my sympathy is with the secretary who does his part in working up a good program and then receives no response from the members in the way of attendance or discussions. The class of physicians who take least interest in their county society is of those who will show up when the fee bill is to be under discussion or when threatened with a malpractice suit or to make complaint against medical societies in general because they do not try to get legislative action for the medical profession or against certain cults or pathies.

These are the men who are in the practice only as a business—and do not realize that medicine as a business is a mighty poor business but the grandest calling or profession in the world.

HOUSE OF DELEGATES

Owing to the importance of the business affairs of our state society and the fact that all these important business affairs must be handled by the house of delegates, it is of the gravest necessity that every county society should have carefully considered the business to come before the house at its annual session and should select as delegate only one who is willing to give his time to attendance on all the sessions of the house; that every delegate should make a report to his society of the work of the house and that the proposed work of the house for the ensuing year should be presented to each county society by the secretary of the state society at their annual meeting, as it is only in this way that the membership of the county societies can become familiar with the work of the house. When a county society has found a delegate who faithfully discharges his duties as delegate by attendance on all the sessions and familiarizing himself with the needs and working methods of the society, he should be returned as delegate year after year. The house does not need shirkers, it needs workers. It is an honor to be chosen a member of this house, but no delegate should be willing to accept the honor unless he is willing to do the work.

Personally, I feel that the work of the house is often pushed through too hurriedly. The first session of the house is held on the evening of the first day's meeting, and at the close of the program of the scientific session. Much business must be done at this session as it is the pre-

liminary of all the work of the succeeding sessions. And though this first session usually lasts till late at night, much of the work is hurried over because of the lateness of the hour.

I believe if it were possible to have the first meeting of the house on the evening preceding the first day's meeting of the society, the work of the society could be more thoughtfully considered and the interests of the society be better conserved.

If we should follow this suggestion, we would only be conforming in another particular with the method of the American Medical Association and this, I believe, would be found to be of distinct advantage to our state organization.

OUR JOURNAL

Since the establishment of our Journal in 1911, we have taken a just pride in its clean and wholesome pages. With each succeeding year, the improvement has been marked, until now in the beginning of the year 1915, we have a journal which will compare favorably with like journals published by any of the sister states.

The editorial matter has been to the point and forceful and represents clearly the sentiment of the profession. The scientific matter is from the best of our Iowa profession and in it we take justifiable pride, and its advertising matter is clean and wholesome and entirely free from objectionable patent and proprietary medicine exploitation.

For the broadened scope, its dignified and elevated management, we are under great obligation to our able Editor-in-Chief, Dr. David S. Fairchild.

OUR MEDICO-LEGAL SERVICE

Since the establishment of our medico-legal service committee, enough time has elapsed to show the wisdom of a department of this sort. For seven years this committee has carried on the work of defending its members against unjust claims; at first on the trifling assessment of one dollar per annum and as the number of cases increased, on an assessment of two dollars. But it seems certain that with the increasing number of cases this assessment must be increased to three dollars.

We should willingly provide this extra assessment, as it is only in this way that most of our membership can have protection against the many unjust claims which are made more readily and commonly now than ever before. And the amount of three dollars necessary to carry on this work is small as compared to the benefits to be derived.

We have an efficient committee who have

served without pay and their labors on this committee have been onerous and exacting.

It is not without hesitation that I add a word of caution to our members that the avoidance of these malpractice suits is another reason why every physician should associate himself with his fellows in the field and work in harmony together, with advice and counsel whenever the importance of the case justifies it, to the end that the work may average with the best of the community, that good results may be attained and that no slightest cause on their part may obtain for becoming the victim of just or unjust claims for damages.

LEGISLATION

Though it may appear to many of the brethren that our legislative committee has accomplished little in the way of aggressive laws against the various forms of isms, fads and quackery; personally, I think their labors have been crowned with success in forestalling and preventing legislative enactments in their favor.

I wish it were possible to get into the minds of the men of our profession the one idea that we do not need and do not ask for legislation for our personal benefit. We will always fail and should fail when we ask for legislation to help us or protect us against the inroads of fads and quacks. For when we do that, we do just what the fad-dists and quacks do, ask for class legislation, which is entirely at variance with the principles of free and enlightened government. We descend to their level. The present standard of medical education has been reached not by the clamor of the public or any other agency than the medical profession itself believing that the health of the community and the lives of the sick are not safe in the hands of any school of physicians, save those who are highly trained and educated and who may safely represent scientific medicine.

Now all we should ask, all we should want, is a single standard of medical education. Not one standard for ourselves; another standard immeasurably lower for the osteopaths; a still lower one for chiropractors, and none at all for Christian scientists and faith healers.

But that every one who professes to treat and heal the sick should be well grounded in the basic studies of scientific medicine and sanitation so as to enable him to arrive at a diagnosis which is the first step before rational treatment can be undertaken.

If this single standard could once be adopted; if every osteopath and every chiropractor were compelled to go through the same mill we have compelled ourselves to go through before receiving our license to practice, he would cease to be

an osteopath, cease to be a chiropractor, or homeopath, or any other path, and we would all be physicians—all working for the common good. In asking for any legislation along this line, we must not ask for it as a protection for ourselves. We do not need such protection and ought not to have it. But we should ask for it because the public needs such protection and the public has a right to have it, whether the public is aware of such need or not.

The best safeguard to the public health is an educated medical profession and if the faddist and cultists are scientifically trained and educated, their opportunities for harm to the public health are greatly curtailed and it is most likely that their vision will be so broadened that they will cease to be faddists and cultists.

We are part of the people and the only protection we have a right to expect is through the protection given to the general public. Ask your legislator to protect your people against the unfit and untrained men of any school of medicine, or they will be a serious menace to the health of the community and your legislator has absolutely no reasonable ground of objection to your request. But ask him to legislate against a certain individual or cult or school and you have stirred up a hornet's nest.

Gentlemen of the medical profession, before you criticise the labors of your legislative committee, reflect that the laws of the state are to be made for all the people and ask only for what you have a right to receive and you stand a chance of getting it.

VITAL STATISTICS

The matter of vital statistics is still in the future of Iowa's progress. Why it should be so difficult to secure legislation in the various states in relation to preventive medicine is hard to understand. The national government and the American Medical Association have been striving for years to secure uniform laws in the states on vital statistics, but with indifferent success. When we recall the fact that human life in America could be lengthened by over one-third by the adoption of hygienic reforms already known and entirely practical, it seems strange that the American public, so quick on the trigger and so eager to adopt the new in the commercial world where the immediate returns in dollars and cents is to be seen and forthcoming, should be so slow to realize that the greatest asset to any state is the health, happiness and efficiency of its people.

The health of a community does not depend on individual hygiene and cleanliness but to community hygiene and sanitation and this is built

upon, is controlled and directed by and is everlastingly in debt to vital statistics. Defective vital statistics and low ideals of cleanliness and health go hand in hand, and if for nothing else, the vital statistics of a state should be kept complete for its educational value.

COMMERCIALISM

The proverbial fly in the ointment is ever present. And whenever we attempt to view with pride "the glorious progress" of our profession, we are sure to be brought to a sudden halt by the appearance of the fly. We all know that the physician owes it to himself, to his family and most of all to the community he serves, that he should make his work sufficiently remunerative, that he may continue his studies, make frequent visits to the medical centers, for observation of the work of others and may have each day some time for reading and study, in order that he may give to those who may employ him his best work and that his best work may be at least a fair average of the best work known to the profession.

But his watch-word must be service first, then remuneration. On this basis he constantly prepares himself for better service and gives the better service. His services are then demanded over wider fields and the remuneration will come in larger fold.

The physician who practices medicine for the fees only is a huckster and a tradesman and has wholly missed the spirit of the profession. He has no place of honor in the profession and brings no honor to it. And I refer now, not only to the quack, but there are young men and old men, who would vent their wrath in violent fashion, if an insinuation were made that they were not bright and alluring ornaments of the profession, who are so wrapt in the pursuit of the almighty dollar that they are guilty as the quacks in some of their dishonorable methods, and far more open to criticism because they hide their dishonorable practices behind the cloak of an honorable profession.

The squawk of the quack generally betrays his lustful purpose and none but the most gullible need be deceived by him. But the insidious methods of the man in the ranks of medicine, who in his pursuit of gain has forgotten all the higher aims of medicine, is none the less reprehensible. That the number of these in our ranks is fortunately in the minority is a matter of congratulation, but that there should be any at all is assuredly deplorable, for it is from them that has arisen a complete misconception of the dignity and high purpose of medicine.

Men with paltry aims, selfish purposes and

ignoble minds may be found in all callings, but to those who appreciate the high duties and sacred responsibilities of our noble profession, the workings of these sordid and ignoble souls are a source of wonder and of pity.

The subject of fee-splitting has been so thoroughly discussed by several of my predecessors within recent years, that I should be glad to ignore it, or refer to it only as one of past offense, now happily abandoned. But I feel that I ought to call the attention of our membership to the enactment of the Thirty-Fifth General Assembly, in its definition of "Unprofessional Conduct," as published in the April issue of our Journal, where fee-splitting or division of fees may be found classed with criminal abortion, from which you may see that the practice is not only recognized as dishonorable and unethical and unprofessional, but that the statute has made it amenable to criminal prosecution.

The practice is indefensible, leading to evils incalculable. The general practitioner who expects with each reference of a case to a consultant, specialist or surgeon, a percentage of the fee paid, is not sending his patients to the best consultant, specialist or surgeon available for the case, but to the one who pays the largest percentage.

The consultant, specialist or surgeon who pays such commission to the general practitioner for cases sent or brought to him, is not usually the best and the most competent in his line, but the one whose adage is ever "put money in thy purse" and whose judgment as to the amount and character of the work to be done for the patient is influenced by his ability to pay. Always it is the patient who suffers most by this reprehensible practice and the honorable members of the profession who bow their heads in shame.

Those who defend this practice would claim that the family physician is not remunerated sufficiently nor proportionately for his management of the case and his advice in giving the reference. If this is true, and I, for one do not deny it, then let him charge his patient directly for that service and thus let the patient know that "the servant is worthy of his hire." He need resort to no subterfuge, but will best maintain his own dignity and preserve his reputation for ethical and honest conduct by being open and direct in the transaction.

CONCLUSION

But I must not take too much of your time in calling your attention to the short-comings of our state and our profession. I have referred to them only to call attention to the work which lies before us—to the heights to be attained.

Saint Paul is said to have boasted that he belonged to no mean city. And we, on our part, may be permitted to boast that we are citizens of no mean state and adherents of no mean profession. A mean profession! Nay, rather the noblest of professions. A business, a commercial organization? No. The spirit of the medical organization is not commercial but altruistic. Who are the patron saints of our profession? Not those devoted to the commercial side of our profession, but those who have devoted their labors and their lives to the best ideals of their calling and to the betterment of humanity. In no profession has there been more devotion to ideals or more of sacrifice. Heroism has always been accorded the acclaim of men and the unwritten history of our profession is a record of a continued series of heroic acts.

To us of the profession the names of these special heroes stand out as mountain peaks, ever luring us onward in emulation of their endeavors.

A halo rests about the memory of Louis Pasteur.

Koch stands as a giant among the men of his calling.

And there is Pettenkoffer and Sydenham, Virchow and Behring, Haller and Boerhaave, Morton and Lister and who among us shall ever forget Reed and Carroll,—who in their investigations of the causes of yellow fever, laid their very bodies on the altar—as surely as did ever martyrs of old, a sacrifice to scientific advancement,—consumed by the fires of their own enthusiasm.

A profession of commercialism! What might not von Behring have demanded for the use of his diphtheria antitoxin? But he gave it to the profession and humanity and his name will ever be enshrined among the precious things of our profession.

By way of contrast,—who recalls the name of Chamberlain of London, the inventor of the obstetric forceps, one of the most useful instruments of our profession? But he kept it a family secret; restricted it to his own use and that of his sons and a few others who paid for the privilege for nearly a century. His name occurs in connection with the history of the instrument, but is not mentioned with pride in the profession.

In later times, when a German scientist prematurely proclaimed the curative powers of "Turtle Juice," over the universal plague tuberculosis,—and it was attempted to commercialize its administration,—the profession compelled the vaunted cure to submit to the cold dissections of science, when its alluring promises were found to be "ashes of roses." His name today is men-

tioned only as one of those who fell from the lofty spirit of medicine to the lure of commercial gain.

In the field of medicine there are many and great opportunities for enrichment, but thank heaven, it is only the few misguided individuals of our profession, with distorted conceptions of the spirit of medicine, who have yielded to the temptation, and they are not our exemplars.

The innumerable glories of the profession are ours to rejoice in,—are a part of the heritage in which we all may share in proportion as we are worthy. These exemplars I have mentioned and others have handed down to us this spirit of medicine—this altruism of our profession.

It may not be given to us individually to equal their achievements or rival their renown, but we can at least keep pure the principles they have handed down to us, keep clean our ideals, our honor blameless, so that not only as practitioners, but as teachers of right living, and by clean and right living on our own part, with full devotion to the cause of humanity which is our heritage from the fathers of medicine, we walk blameless before the world. So may we be helpful in a profession—higher than which there is none—to a world ever needing help and guidance.

SOME HOSPITAL PROBLEMS*

L. W. LITIG, A. M., M. D., M. R. C. S.

First of all I emphasize the fact that this paper is read before a medical society, practically every member of which is on the staff of at least one hospital.

In this paper I shall assume that we have to do with an open hospital of moderate size, one in which every reputable physician living in the same city has the privilege of the hospital. Much as may be said against the open hospital, much may be said in its favor, specially if properly managed. At any rate, the open hospital has come and probably has come to stay, be it good or bad.

The hospital which we are considering must have a medical advisory committee, or a hospital advisory board elected by the attending staff, to represent the staff before the hospital management. This committee must not be too large, and it will be more efficient if it do not include all members of the hospital staff. If it included the entire staff, it would include some men that do sufficiently creditable work, but that do not give hospital management or hospital problems any serious consideration, others whose only object is to get along with the least possible fric-

tion, that are willing to bury their fatalities without making a serious effort to learn whether a different result might have been possible. This medical advisory committee should include only men of considerable experience, and that are sufficiently interested in hospital work to visit different medical centers, men of good judgment, of accurate observation, that will bring to their own hospital whatever of good they may notice in their rounds of observation. It should include all such men. This committee should keep in close touch not only with the hospital management, but also with the entire hospital staff. This committee should recognize the duties and difficulties of the management, also the rights and needs of the staff, but a member of this committee should have absolutely no privileges in the hospital that is not fully and freely granted to every member of the hospital staff. It should be understood that every member of the hospital staff with an idea or a grievance is invited to meet with the advisory committee, to present his views. Its meetings should be held at fixed times, that staff members so desiring may attend.

This advisory committee should have frequent meetings, at least every month, better still once in two weeks, to consider questions that will necessarily arise for solution. I have said members of the medical advisory committee should be men of experience and observation. I should say also that they must be men that will stand by their convictions, as expressed in meetings, that will not say one thing in committee meeting, and another thing out of committee meeting.

I can not understand how a hospital can thrive and be successful without this advisory committee, although a hospital that is so fortunate as to have an unusually intelligent and efficient resident head, be the title of this head "superintendent of nurses" "principal of the training school," or what not, may get along without an advisory committee. A hospital advisory committee, the members of which do not realize the fact that this is a period of progress, that keep their eyes upon their competitors across the street, rather than upon competing hospitals in surrounding cities and surrounding states, that do not bring to their own hospital whatever they note of good in others, is of no value, rather a handicap. A hospital advisory committee that fails to meet for years is dead, and it is only due to the fact that nature does not always return dust to dust in the usual way that the atmosphere about such a board is tolerable.

Still more necessary and important than the

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medical advisory board, is the resident professional head of the hospital, or head of the nursing staff. This resident professional head must have absolute control, not only in the selection and admission of "trainers," but in the selection and control of subordinate heads, as the head nurses on the floors, or in the operating room. Subordinate heads must not be appointed by lay boards or lay officers, without the express and distinct approval of the resident professional head of the hospital. Many of the open hospitals are conducted by this or that religious organization. Particularly fortunate is the hospital of this type that has at its disposal one thoroughly competent woman to assume sole and absolute charge of the nursing service. If such a woman be not immediately available, one must be found or developed, as she is indispensable. If such a woman be not immediately available, it will not mend matters to divide the responsibility between three or four, none of whom is, admittedly, equal to the entire load. Authority and responsibility must be centralized. This one woman should be given ample opportunity to visit other good hospitals, that she may be alive to modern hospital progress. But I can readily see that the path of this woman will not be one of roses. She has been away on one of these visits; she returns with one or two splendid ideas (one or two good ideas make the trip worth while), but the fatal inertia of those about her makes it difficult, if not impossible, for her to put new and better methods into practice. I repeat, she must have the authority to enforce her views, otherwise she might just as well spare herself the inconvenience and expense of travel.

I have said that there are many questions that would present themselves for solution to a live hospital committee, a few of which I shall present: "How long must a nurse be in training before she is considered competent to be assigned as a 'special' to a patient in the house?" Some time ago I investigated this question, sending out quite a number of letters to different hospitals, from which I received widely different answers. In some a pupil nurse is permitted to "special" after she has been in training six months, in others not until her senior year. The plan which appealed to me as being the most logical, however, was to have nurses "special" during their second year, first year nurses being considered insufficiently trained to assume special charge of a patient, and the third year nurses being considered too valuable as instructors to first year nurses. There are hospitals in which nurses are permitted to "special" before they complete their third month. A few weeks ago,

I was in a town about one hundred miles from Davenport, to do a simple surgical operation, and while I was in that town I was told of a young woman that had been in training only two months in Y hospital, when she wrote home that she had been assigned to "special" a private patient in Y hospital. I shall not repeat the comments of the doctor. People desiring good nursing will not go to Y hospital. The doctor insisted that he would be blanked if he would ever recommend any patient to Y hospital. If nurses be assigned to "special" cases after two months, why should they remain in training for three years? As a rule, pupil nurses should not be assigned to "special" patients until they have completed one half of the course, and one year should be the minimum.

A member of the staff has no right to select the pupil nurse to take care of his patient, such selection must be left to the head of the training school or to whosoever has charge of the nurses. If the physician considers the nurse incompetent and unfitted to care for a particular patient, he has a right to ask for another nurse, and such request should be honored.

Wise hospital managers cultivate the good will of the graduates of the training school. These young women locate in neighboring towns or in the same town. Naturally, they are frequently in a position to recommend a hospital to their friends. Is it logical to believe that they will recommend a hospital which does not permit them to "special" in the hospital after they have graduated, more so when that hospital is their own alma mater? Alma mater! DURA-MATER is more fitting. How can a hospital increase its sphere of activity when it treats its graduates in this manner? I remember one instance in which a nurse brought a patient to Z hospital in the town of Z. The nurse was a graduate of Z hospital. The patient wished her as a "special" because she was an old friend of the family, but her dura-mater said to her, "you can not enter." She returned home, and I am sure that long before this she has found a hospital that will allow her to "special," and this hospital she will recommend to her friends. Z hospital in the town of Z, and the physicians working in Z hospital are the losers. I recall another instance where a nurse was not permitted to care for her own sister in X hospital in the town of X. The sister left the hospital feeling very bitter, and it is a safe assumption that she will never refer a patient to X hospital. Fortunately there are but few hospitals that close their doors to their own graduates as "specials" in the house. There is no wiser hospital management than that

of St. Mary's, Rochester, Minnesota, and in this hospital graduates only are permitted to "special." The best interests of the hospital, and the best interests of the staff, and above all the best interests of the patients demand that the hospital be open to its own graduates as "specials," and if the hospital management is usually wise it will open the doors of the hospital to the graduates of competing hospitals and competing training schools, to gain the good will of their graduates. As I have already said, when a pupil nurse is assigned as a "special" in the hospital, her selection should be left to the head of the training school. When a graduate is selected as a "special" the choice must be left to the physician in charge, or to the patient, and the hospital should honor such choice except for specific reason.

In regard to the operating room, I should say that it is no concern of the surgeon who tidies up the operating room after the operation or who prepares it for the operation. It is no concern of the surgeon who presides at the instrument table or who supervises the various steps of sterilization of dressings, so long as this work is well done. But it is his concern, and he has a right to know how long the sterilizer was run with steam on and how long it was run with steam in the outer chamber to dry. He has a right to know whether a nurse touches instruments and threads needles with her bare hands, or in "drying" boiled gloves with gauze or towels, as is often done, or whether she touches the outside of the gloves with her bare hand when she puts them on. It is his right to object as emphatically as he can when he notices operating room nurses folding sponges on tables none too clean, tables upon which doctors place their instrument cases when coming from the street, and which are general service tables. Nurses should make it a point to keep not only their hands, but all material to be used as dressings as clean as possible, the latter before as well as after sterilization. A nurse that will fold sponges without having sterilized her hands, and upon a table that has not been covered with a sterile sheet, or at least a recently laundered sheet, gives evidence of very defective training. We all know that sterilizers occasionally fail, perhaps because they are packed too tightly, or not properly managed. No danger of infection, however remote, is too remote to be ignored. The operating surgeon does not have the privilege of criticising the style or cut of the uniform worn by the nurses, but he has a right to insist that the sterile apron worn by the nurse at the instrument table during an operation is sufficiently ample to cover all parts of that uniform.

Nothing is more annoying than to have the head nurse instruct a pupil nurse at the instrument table during an operation. This is like teaching a soldier how to load and prime his rifle during the battle, and reflects decided discredit on the teacher.

I do not wish anything that I have said to be taken to mean that every pupil nurse should serve a term at the instrument table. This short sighted policy is sure to be expensive to the hospital. Those of us that travel know that this custom no longer obtains in the best hospitals, as St. Mary's, Rochester; Augustana, Chicago; Lakeside, Cleveland; Mercy, Chicago, and others. In these hospitals the same nurse is at the instrument table year after year. It would be just as logical and just as safe to have medical students operate before graduation as it is to place a pupil nurse in a position the duties of which are just as critical for her as those of the operator. It is now conceded by the best schools that men expecting to do surgery should have some special training subsequent to graduation, and it is equally true that the nurse desiring to be an operating room nurse should have some special training. Some of these pupil nurses, after two or three months, become fairly efficient, others never learn anything. I am sure that a well managed operating room impresses the professional visitor more favorably. How can operating room service be smooth with a constant change in the operating room service? Still more important is the fact that the best results can not be obtained in critical operations, with bungling service at the instrument table.

A well established hospital should make some effort to standardize its methods. Even in an open hospital there is absolutely no reason for maintaining or permitting the continuance of unnecessary or antiquated procedures. Believing as I do in the greatest personal liberty to the surgeon, how can a reasonable degree of uniformity be secured? By monthly staff meetings, at which papers on various subjects pertaining to hospital methods will be read and discussed. At these meetings all new procedures should be fully discussed, likewise the old ones. Nurses would be expected to attend these meetings, also the resident professional head. There must be no violent effort to separate the hermit from his antediluvian methods, but kindly and considerately he should be brought in contact with contemporaneous men and methods. In the words of Jacobi, he should be given ample incentive to pray less and watch more. I should not urge such gentle treatment for the operating room nurse that still persists in

steaming instruments instead of boiling them, or that refuses to instruct her subordinates to completely submerge instruments while they are being sterilized. Incomprehensible as it may seem, I know of one hospital in which during the month of November, in the year of our Lord, 1914, instruments were still sterilized by steaming, notwithstanding the fact that serious efforts had repeatedly been made to convince this service that the steaming of instruments is entirely out of date. Still more incomprehensible is the practice occasionally seen of sterilizing (?) gloves by placing them on a tray some distance above the water, in the instrument sterilizer. Gloves are especially difficult to sterilize, and there are but two ways to render them safe. They must be boiled for ten minutes, weighted down so as to remain completely submerged; or they must be put in a pressure sterilizer.

It seems to me that immense good might be accomplished and at a minimum expense, by the occasional employment of an efficiency expert. This efficiency expert might be a doctor or a trained nurse, but he should remain in the hospital as long as he deems necessary to thoroughly familiarize himself with all branches of the service, and at the end of this time he should make a report in writing, criticising every part of the hospital service, from the kitchen to the operating room. I am sure that such report would be illuminating, not only to the nursing staff, but also to the attending staff. I do not know of a single hospital that would not be benefited by the occasional employment of an efficiency expert.

To resume: A modern hospital must have—

1. A properly selected hospital advisory committee, to include only men actively interested in hospital problems, *and to include all such men available and willing to serve.*

2. A resident professional head, in sole and absolute control of all that pertains to the activity of every individual in any way associated with the sick. She must select her sub heads, and have the authority to dismiss them, and of course she must admit the pupils to the training school.

The intelligent and harmonious co-operation between these two bodies will make for the best service. In a hospital without these two factors and without an intelligent harmonious co-operation between them, success is impossible.

And finally: This live, energetic hospital staff, and this efficient resident professional head of the nursing staff, will often have their visions of progress and of better things dimmed if not entirely obscured by a re-

lentless, ever pursuing nemesis, because Charity Hospital, Mercy Hospital, and the Good Samaritan Hospital require money, much money to carry on their work. With the most sincere desire to co-operate with those representing the professional side of this work, the management of these institutions will often find themselves unable to co-operate to the desired extent, because of the lack of money. But co-operation is sure to result in increased efficiency, in better nursing and in a much larger percentage of satisfied patients that become life long friends and boosters of the hospital. The immense value to the hospital of satisfied boosting patients can not be over estimated. Further, the things desired by the hospital staff do not always cost much money. In fact, they would frequently result in an actual saving.

I would have this an appeal to each hospital for a painstaking, exhaustive, and co-operative study of the problems which confront the business and the professional side of hospital work, a co-operative study which is sure to result in benefit to the hospital and to the staff.

THE TREATMENT OF PULMONARY TUBERCULOSIS AT HOME*

J. W. SHUMAN, M. D., Sioux City

That the majority of people suffer from tuberculosis, recover and live "three score years and ten" without diagnosis, prognosis or treatment, is a well known fact, but often forgotten. Koch, in the last paper he wrote, said "Tuberculosis, as is well known, manifests itself in the most varied ways, frequently occurring in such insignificant and latent forms that no sharp distinction can be made between those affected and healthy persons." On this factor, men of our profession have become "experts" exploiting their "cures" wrought with incipient cases. Contracted leathery and fibrous apices have been noted during autopsies before vaccines, serums, etc., were ever heard of. Mild tuberculosis, escaping diagnosis recovers at home, just as it would in the sanatorium, "with physicians in constant attendance, living rooms for the use of patients, treatment rooms, tuberculin administered in suitable cases (?), (the question mark is my own) compression of lungs, etc., etc."

Do not suspect me of discovering a remedy for this disease which is not well known to every physician. Most every individual has a sanatorium at his own door. It has become an axiom that rest, sunlight, fresh air and a well balanced ration plus a good digestion, constitute the ra-

*Read at the fortnightly meeting of the Woodbury County Medical Society, December 17, 1914.

tional therapy in tuberculosis, ever remembering to dispel mental hebetude. Home treatment will always be an important factor in the reduction of the mortality from this disease and is especially considered on account of its accessibility and its aid in securing an arrest. It is easier to persuade the patient in the earlier stages of the disease to submit to the home treatment and in managing home treatment there is no nostalgia to combat, no acclimating to fear and the expense is minimized. Treatment in the home will be considered under two heads, prophylactic and general. In the latter special reference will be made to the factors which make for the return of the sick individual to normal.

PROPHYLACTIC TREATMENT

Prophylaxis is very important and should begin at birth. The cause of tuberculosis is constantly present in every inhabited country, and all of us are daily exposed to the disease. From the cradle to the grave we struggle against it, and briefly, everything possible should be done to give the new born a healthy start in the world. The mother's health should be cared for and when possible all babies should be raised at the breast. The home conditions should be examined; the child suffering from any abnormalities of the upper air passages should have them corrected at as early a date as possible. All children should pass a thorough physical examination before entering school each year and the teachers should be required to be physically as well as mentally fit to assume and carry on their important vocation.

THE PATIENT

The fear of tuberculosis in the past has done much to hinder the progress of stamping out the disease. Often the patients do not take the precautions they should for fear of being laughed at or shunned by their companions. When the truth is known the recognized subject is not a source of contagion if the patient and friends are taught that as long as the disease is active the causative factor is being thrown out in the sputum, feces and urine and that the destruction of these materials will eliminate the contagious feature, making the patient a safe companion.

The consumptive should be taught to observe the rules of prophylaxis in the strictest sense. The patient should sleep alone, should never spit except into a burnable receptacle, and gauze or a paper napkin should be held over the mouth when coughing. All the bed clothing should be fumigated before being laundered. The patient should have individual dishes which are thoroughly boiled each time after using. Anything which comes in contact with the sputum must be burned.

It will be a great step toward the prevention of disease when the pocket sputum cup becomes as popular as the handkerchief, for spitting not only causes tuberculosis, but many other diseases. Those who are careful and carry out the rules of prophylaxis are not dangerous. It is the one who is unaware of the trouble or is careless after being informed of the dangers, who spreads the disease, and such a one is to be feared.

The patient should be given a thorough physical examination to ascertain both the general and special conditions, the nature and extent of complications and these findings should be charted for future reference for the physician. The patient is taught how to take the temperature and pulse and to record the same. This will make the patient take interest in and also aid the physician in keeping in daily touch with the conditions. The use of the daily record book has been criticised and condemned on the assumption that it makes the patient too introspective; but I would hardly wish to undertake the treatment of a case without this record. The physician should see the patient often enough to maintain the psychologic relation which will permit full control. The early recognition of tuberculosis and a full explanation to the patient of the condition, constitutes the first big step in instituting a care.

GENERAL TREATMENT

The fad for exercising active tubercular patients as well as over feeding them is past. Rest, fresh air and feeding are recognized as the rational treatment.

Rest to the mind, body and diseased tissue is secured to the degree attainable. Rest to the body is secured in bed,—in a tent in good weather,—or, a pleasing, light and airy room into which the sun shines the longest, the walls of which are decorated to the patient's taste, from the windows of which a pleasant view can be obtained. Mental as well as physical harmony must exist, factors which are not hypothetical in the treatment of pulmonary tuberculosis.

Three things are accomplished by rest in bed, which convince the patient and friends of progress toward health, namely, cessation of cough and expectoration, continued normal temperature and pulse, and an increase in the body weight. The patient should be kept in this position until the "normal" has been maintained for a safe period. Rest in bed steadies the temperature, slows the pulse and respiratory rate, decreases the cough and expectoration, improves the appetite, aids the digestion and assimilation and as stated, increases the patient's weight. Anything producing such favorable results should be practiced in every case. However the rest periods

should be prescribed to suit the individual case and this is decided by the attending physician.

There are a few things we can do to rest the inflamed tissue. We can avoid overwork of the lungs by using only fresh air (thus cutting down the rate of respirations), by not permitting the patient to talk unnecessarily or elevate the arms (combing the hair, etc.). The excursion of the diseased side (if unilateral) can be lessened by lying on it,—some advocate "strapping." These are all little things but they are significant; for we all are trying to influence the lung to be quiet without going to the extreme measures of immobilizing the tissue by plastic operations, gas injections, etc. Nature in her attempt to secure rest to the diseased organ in many instances forms a splint in the form of a "pleural" effusion, thus immobilizing the lung, and it would appear good judgment to leave this splint alone. We recognize 80 per cent of pleurisies as tubercular in origin, and with the effusion non-purulent (determined per aspiration) and not embarrassing the heart or respiration, the indication would seem to be to leave the fluid alone, to rest and feed the patient and when once the inflammation has subsided the fluid should stop forming and that already present should be gradually absorbed permitting the lung to expand slowly.

Fresh Air.—This was mentioned as an adjunct in securing rest to the lungs, its most important factor. Coolness, dryness and motion of the air are factors to be secured. The active motion of the air with the attendant evaporation of moisture causes much of the sensation of well-being from good ventilation. Fresh air has three proven values as a therapeutic agent. It is a hypnotic, a tonic and an antipyretic. But fresh air is no "cure all" and the all prevalent theory that the tuberculous should "go west for health," "go out into the open and live," etc., is to be combatted. If our comrades are curing 75 per cent of the early cases in the tenement districts of New York and Chicago, why then should it be necessary to send our patients a distance from home seeking the climate that will cause the disease to vanish as if by magic? The ideal climate for the cure of tuberculosis has never been found, and the patient or doctor who relies on it alone for a cure, is like the foolish boy who chases the tail of the rainbow for the pot of gold.

Feeding.—A lowered nutrition of the body, and a decline in the functional activity of the cells, particularly the phagocytes, is most surely a favorable field for the tubercle bacillus, and this is the condition we find in consumption and is the one we primarily try to remedy.

The feeding of the patient takes a prominent place. By it, coupled with inactivity, weight is gained, new body tissue made, the health index rises and finally the disease is lost sight of. Generally the three hour feedings are followed. Tasteful, nutritious food is supplied and care is taken to vary the kinds. Green vegetables are ordered and always enjoyed. Crisp bacon is the only fried food allowed whilst whole milk, from one to two quarts a day in divided quantities is always prescribed and it is a fortunate thing that all tubercular patients like and tolerate milk. As soon as the patient's condition will warrant bringing to the table for the noon-day meal it should be done, for in company the appetite and digestion are improved. The patient should not be compelled to eat as much as possible; but rather as little as possible, that is, the smallest amount compatible with a progressive gain in weight. It should be remembered that the digestive system will be over-taxed in direct ratio to the amount of food ingested in excess of that which can be properly digested. A gain of one pound a week is better than to gain three or four only to impair the digestive system in a few weeks and thus destroy one of the most important factors for the patient's recovery. Weighing scales should be kept in the patient's room and the weight taken once a week. The physician and nurse should individualize in each case and give the kind and amount of food that is best assimilated. The disordered gastrointestinal tract is oftentimes our greatest antagonist, preventing the return of the individual to good health, and if constipation is the complaint American paraffin oil (for internal use) is all that can be desired in handling it; its administration must be individualized.

The home treatment must also be considered and understood for those individuals who are returned from the sanatorium after the average stay, six months, and also for those who on account of advance stage symptoms are not accepted by our state institutions for the care they need, both prophylactic and general.

To illustrate the foregoing principles I wish to make mention of the six active chronic cases which occurred in the thirty-four cases of pulmonary tuberculosis diagnosed during the past year (September 1, 1913 to September 1, 1914), aside from my dispensary practice. My cases are classified as incipient, chronic, active chronic and advanced. The results compare favorable with sanatorium results and the cases are far less carefully selected.

Case 1. L. L., referred by Dr. W. W. Dean, Sioux City, September 2, 1913. Male, single, nineteen years

of age; height six feet; weight 158 pounds (actual); complains of cough and expectoration, hemoptysis, loss of weight, and night sweats over a period of five to six months.

Physical Examination—Temperature $99\frac{1}{2}$, pulse 103, respiration 18. Left apex duller than right; bronchial breathing present. Sputum evidences tubercle bacilli, Grafke 6, 7. The rational treatment advised and carried out in a tent. His physician reported two months later, "weight 191 pounds, general condition excellent, no evidence of disease present." August 12, 1914, my record shows that the patient had been working for the past nine months, weight 171 pounds (actual); chest findings and sputum examination negative for active lesion.

Case 2. Referred by Dr. J. H. Robins, Hinton, Iowa, September 6, 1913. Female, married, age twenty-six, weight 113 (?) pounds. Complains of cough, loss of weight, a feeling of weakness and has an elevation of evening temperature from one to two degrees.

Physical examination elicits crepitant rales at the left base posteriorly, which are exaggerated on coughing. Sputum examined and five tubercle bacilli found in a one hour search. Treatment advised and was carried out by her physician. November 10, 1913 he reported "a twenty-five pound (actual) gain and all symptoms of activity ceased."

Case 3. H. M., referred by Dr. V. B. Knott, Sioux City, November 24, 1913; female, single, age twenty-nine, height five feet nine and one-half inches, weight 110 pounds (actual). Complains of cough, loss of weight, etc. For past three months all symptoms increasing in severity. Father and one sister died of "a fever," one year before (suspicious of tuberculosis).

Physical Examination—Left apex dull, moist crackling rales from the nipple to the clavicle and bronchial breathing pronounced. Sputum; tubercle bacilli in large numbers of the fine granular type. The patient was placed on the rational treatment and January 25, 1914, her weight was $131\frac{1}{2}$ pounds (net gain $20\frac{1}{2}$ pounds). General condition greatly improved and the special condition at this time quieted. She was allowed to get up, continuing ambulatory treatment. Her condition continued good for four months, when she suffered an activation of all symptoms, except she lost very little weight. Putting her back to bed the lesion quieted down nicely and continues favorable.

Case 4. C. H. was referred December 15, 1913; male, married, age twenty-seven years, height five feet five inches, weight 106 pounds. Complaining of "stomach trouble."

Physical Examination—Left apex duller than the right, bronchial breathing pronounced. The patient states that he "has a slight cold," thinks it is a "tobacco cough." Sputum specimen examined and no tubercle bacilli were found, but the diagnosis of chronic tuberculosis given the patient and he was put on the ambulatory treatment. Two months later tubercle bacilli were found singly and in clumps,

which changed the diagnosis to active tuberculosis. The patient continued at his occupation against my advice, however gaining in weight and apparently his condition improved.

On March 21, 1914 his weight was 116 pounds and he states "feels fine and does not spit up." His father became alarmed and had the boy examined by another physician who gave the same diagnosis. March 23rd appears the last note on his card as follows: weight 115 pounds, no cough or expectoration "feels good."

Case 5. M. W., referred by Dr. V. B. Knott, June 23, 1914; female, single, age twenty-one, weight $117\frac{1}{2}$ pounds, complaining of an actual loss of five pounds weight in one month, appetite poor, dizziness and headache, flushed every evening and in the morning cough and expectoration. Personal history; good health until one year ago when she suffered a swelling of the glands in the left axilla. These were removed by Dr. Knott, August 28, 1913. The patient immediately started to gain weight, gaining twenty pounds and suffering no symptoms of ill health.

Physical Examination—Left apex evidences bronchial breathing and dullness over night—coughing at the end of forced expiration, crepitant rales. Sputum examined showed tubercle bacilli, Grafke, 3. Treatment advised and carried out until July 20, 1914, when her weight was $122\frac{1}{2}$ pounds. Patient went from my care on this date.

Case 6. W. G., referred by Dr. V. B. Knott, June 30, 1914; male, married, age 40, weight $131\frac{1}{4}$ pounds. Complaining of sick stomach, cough and expectoration and under weight. The family history was decidedly tuberculous as the father, one brother and one sister had succumbed to the disease. The previous history evidenced an attack of pleurisy (left) at twenty and several mild attacks since. Patient was easily fatigued and had no appetite, especially for breakfast.

Physical examination evidenced the patient under weight. The right and left apices duller than normal. Bronchial breathing was present, expiration was prolonged and a few crepitant rales were noted in the left lung well up in the mid axillary line. The urochromogen test was strongly positive. The hemanalysis was negative. The sputum analysis was negative for tubercle bacillus. The subcutaneous tuberculin reaction was strongly positive showing a hyperemic area ($1\frac{1}{2} \times 1$ inch) in twelve hours. A diagnosis of chronic tuberculosis with an activation of the same was made and ambulatory treatment instituted. Ten hours sleep in open air, one hour nap after the noon meal, to exercise under fatigue and three hour feedings were the main points in treatment advised.

His record card showed the weight on December 16, 1914 to be $151\frac{1}{4}$ pounds, a net gain of twenty pounds, no cough or expectoration, appetite and sleep good and he stated that he felt fine and did not tire.

No mention of the tuberculin has been made

for I feel that a conscientious man may well leave it out of his treatment. If it is given in a dose that will produce an unmistakable effect, that effect is harmful. When given in a dose that approaches the infinitesimal it does no harm, but that it does any good is difficult to establish clinically.

Farmers Loan and Trust Bldg.

OBSTRUCTION OF THE BOWELS*

A. W. SHERMAN, M. D., Burlington

There are few affections of the body that cause more anxiety to the attending physician than that of obstruction of the bowels. If the symptoms come on gradually, as they frequently do, it is impossible to determine whether the illness is due to an attack of obstinate constipation, or whether it is indeed an obstruction of the intestines. Hours of valuable time may pass before a correct diagnosis can be arrived at. To a theorist a diagnosis may be a simple matter, but to the clinician the anatomical and pathological conditions may be very obscure, and uncertain until after hours of patient study, he may be awakened to the fact that his patient's life is rapidly ebbing away, and can only be saved by a serious surgical operation. These cases come to all physicians alike, and the outcome depends upon his prompt recognition of the trouble, and his wisdom in handling it. If he is a surgeon, skilled in handling such cases, he will be rewarded with a reasonable number of recoveries. If he is a physician, unskilled in surgical technique, he is fortunate if he recognizes the serious nature of the trouble, and calls in a skilled surgeon before it is too late.

Intestinal obstruction may be dynamic, adynamic, or mechanical, as classified by Murphy. In dynamic obstruction the gut is contracted down into a cord like mass. There is nausea, and vomiting, with severe pain in the abdomen. The bowels are obstinately constipated, and auscultation with a stethoscope will reveal absence of peristalsis. Lead and tyrotoxicon poisoning will produce this condition, by an action of the poison on the terminal nerves.

Adynamic obstruction is due to a paralyzed condition of the bowel, and is found most frequently in connection with peritonitis, either local or general. There may have been an appendicitis, with rupture, or a perforation of the bowel. Following the rupture there will be very severe abdominal pain, first referred to the region of the umbilicus, and later it will become general. There will be nausea and vomiting, the

abdomen will become rigid, the pulse will become small and rapid, the temperature will rise and a blood examination reveal a leukocytosis. The bowels will become obstinately constipated, and auscultation of the abdomen will fail to detect peristalsis. Enemas and cathartics may be given, but it will be found impossible to get a bowel movement, or for the patient to expel gas. The abdomen becomes more and more distended with gas, hastened by the paralysis of muscularis of the gut. The only remedy for this trouble is prophylaxis. If the patient can be operated on before septic peritonitis sets in, recovery will follow in the vast majority of cases. If septic peritonitis has developed, the indication is to let out the pus, and if the cause can be easily found and removed do so but it is not good policy to spend a great deal of time hunting in the blind. It will be safer for the patient to close the wound hastily, get the patient to bed, placed in a semi-erect position and administer normal saline by hypodermoclysis, as well as by rectum by the drop method, using every means to keep heat in the body. In spite of all we can do death will defeat our efforts in a large per cent of cases unless operation is promptly decided on after septic peritonitis has set in. It is incumbent upon every physician to make himself so familiar with the cardinal symptoms of this terrible disease, that he will learn to recognize it at his first visit in the vast majority of cases. Even when he has mastered these symptoms, and has them constantly before his mind, he will meet with cases that will deceive him.

Another form of adynamic obstruction of the bowel deserving our serious consideration is diaphragmatic pleurisy. Many an operation has been performed for appendicitis when the disease was located in the lower lobe of the right lung, and the removed appendix was a beautiful specimen of normal tissue. Had a careful examination been made of the chest, the classical symptoms of a pleuro-pneumonia would have been found, an operation would have been avoided, and beyond all doubt the patient would have made a more rapid recovery.

The symptoms of a pleuro-pneumonia, involving the diaphragm on the right side, are pain in the abdomen, first around the umbilicus, but soon localized in the region of the appendix. Frequently there will be nausea and vomiting. The pulse and temperature will be increased. There will be rigidity on the right side of the abdomen and tenderness at McBurney's point. The symptoms are typical of appendicitis, and the only way to avoid error is to never make a final diagnosis

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of appendicitis, until after an examination has been made of the thorax.

Embolism of the superior mesenteric artery will produce a paralysis of the bowel. An embolism does its work with magic speed and the symptoms develop with equal rapidity. In these cases there will be a history of previous illness, the cause of the embolism, is most frequently an endocarditis. There will be severe pain in the abdomen, followed by nausea and vomiting. The temperature may be normal, but there will be a rapid, weak pulse. On post-mortem examination a large portion of the small intestine will be found black from gangrene.

Among the many causes that may produce a paralysis of the bowel may be mentioned, pericholecystitis, passage of biliary and renal calculi and uremia. Paralysis may result from operations on the intestine or its mesentery.

Before passing to another phase of this subject, I want to call your attention to the leading characteristics of an adynamic obstruction of the bowels. There will be an absence of peristalsis, whether the examination be made by inspection, by palpation or with the stethoscope. It will be found impossible to get a bowel movement, either by the use of enemas or cathartics, nor will it be possible for the patient to pass gas. Absence of peristalsis is the characteristic that we must always look for in deciding that we are dealing with a case of adynamic obstruction.

Mechanical obstruction may be due to obturation or to strangulation. When a loop of gut becomes incarcerated, two distinct pathological conditions must be considered. There will be a stoppage of the fecal current, producing the symptoms of intestinal obstruction. In addition to this, there may be an obstruction to the circulation, resulting in strangulation. An obstruction that only checks the fecal circulation may last for days and life be saved by a timely operation, but a strangulated ileus that has lasted beyond twenty-four or forty-eight hours, will kill, even though an operation has been performed by a most skilful surgeon. Strangulation does its work quick and sure by producing gangrene and perforation of the intestine above the obstruction. A clear distinction must be made between these two forms of mechanical obstruction because life may be saved if an operation is performed before the vitality of the gut has been destroyed by the obturation, but in case of strangulation, defeat will come just as sure as there is a failure to make a prompt diagnosis and relieve the strangulation by a prompt surgical operation.

The symptoms of mechanical obstruction are similar in many ways to those of dynamic and

adynamic obstruction. There will be severe pain in the abdomen; first centered around the umbilicus. There will be nausea and vomiting, first of the contents of the stomach, gradually becoming stained with bile. If the obstruction continues the vomit will finally have the odor of feces. The abdomen will become distended with gas. With the mechanical type of obstruction the pain is colicky, the paroxysms recurring each time a peristaltic wave passes down the gut. Nature is constantly striving to overcome the obstacle in her path by sending down powerful peristaltic waves over the portion of intestine above the obstruction. With each effort on her part there will be a severe pain all over the abdomen and borborygmus due to the movement of gas passing down the bowel. If the abdomen is examined by auscultation a commotion will be heard within, each sound striving to become louder than the one before. If the stethoscope is moved along in the direction of the loudest sounds, the trouble may be located at a point where there seems to be an explosion, as the gas strikes against the obstruction, due to a recurrent flow of gas and fluid. At first the vomit may not be different from that in dynamic and adynamic obstruction. As the disease progresses, however, there will be a difference. It will finally become explosive; it will be thrown all over the bed and every thing else that happens to be in the road. It will literally flow from the mouth. The obstructed portion of the intestine becomes a reservoir, into which the secretions of the stomach, liver, pancreas and the succus entericus will be poured, until it literally overflows. In mechanical obstruction the vomiting increases. In the paralytic type of obstruction, it will diminish. The location of the ileus may be judged by the nature of the vomit. If it be high in the stomach or upper intestine the vomit will be small and the gaseous distention will not be great. If it is low down at the ileo-cecal valve the quantity will be large and the distention of the abdomen will be very great. In mechanical obstruction the pulse will be slow and strong at first, but will become small and rapid as the strength is overcome by the absorption of poisons. There is never an elevation of temperature in a purely mechanical obstruction. The condition of the pulse and temperature should always be observed. The fact that there is no temperature will eliminate an adynamic obstruction due to local or general septic peritonitis, thrombosis, embolism and pleuropneumonia involving the right side of the diaphragm. In each of these conditions there will be an acceleration of the pulse from the beginning.

The most frequent cause of mechanical obstruction of the bowel is some form of hernia. In a study of one thousand operations for acute obstruction of the bowels, "Gibson found that thirty-five per cent of the cases were due to strangulated hernia, nineteen per cent to intussusception, a similar per cent to bands, twelve per cent to volvulus." In the male, inguinal hernia claims the major number, but femoral hernia claims more victims in the female. When examining a case of mechanical obstruction we should always examine the site of each external hernia. They are the inguinal, femoral, umbilical and ventral. Frequently the protrusion will be large, but it may be so small that it can only be detected by the most careful examination. This is especially true with femoral hernia. It will often give the impression that it is only an enlarged inguinal gland. That it is small is no reason to lead us to think it is not dangerous. To my mind there is nothing to be more dreaded than a small protrusion at the femoral opening. If there is obstinate constipation and a slight bulging at this point, a diagnosis of femoral hernia should be made and the diagnosis should not be changed till after it has been proven conclusively that such is not the case. If it is a femoral hernia, the chances are that it is strangulated and unless relief is prompt the patient will die, or at best there will be a very stormy convalescence.

If it is impossible to find a hernia at the external openings, we should consider the possibility of an internal hernia. There may be a peritoneal pocket in close proximity to the external hernial openings, or through the diaphragm. There may be a diverticulum or a band from adhesions following a previous attack of peritonitis or a surgical operation. There may be a volvulus, either of the large or small intestine, but most frequently of the sigmoid flexure. In children, intussusception should always be kept in mind as a cause of obstruction. The onset is typical. The patient may have been perfectly well. All of a sudden he is taken with severe pain with vomiting. He is prostrate at once and takes to his bed. The pains are paroxysmal and tenesmus is almost unbearable, due to the violent peristalsis of the gut below pulling upon the part above. It is generally located in the right ileac region. An examination will generally reveal a kidney-shaped mass on the right side. After hours of suffering blood will appear in the stools, clearing up the diagnosis.

Obstruction may be caused by tumors. They may occur in any part of the alimentary tract. Cancer is the one tumor to be dreaded as a cause of obstruction. When it invades the intestine,

it generally is found at some point in the large bowel. The most frequent location is in the rectum and next to this, in the colon. The obstruction comes on gradually and the lumen of the tube may be almost obliterated before obstruction takes place and then it is generally due to a hard mass of fecal matter coming down and blocking the opening.

The indications for treatment depend upon an accurate diagnosis of the nature and cause of the trouble. Till an accurate diagnosis has been made, it is absolutely impossible to outline a definite plan of procedure. Unfortunately it is impossible to make a positive diagnosis in many cases until after the abdomen has been opened. In the first place we should determine whether the case belongs to the dynamic or adynamic type of obstruction, or whether it is due to some mechanical cause. In the first, there will be an absence of peristalsis as will be determined by auscultation. If the bowels are dead, and there is no sound of gas and fluid moving in the bowel, the chances are that we have a case of obstruction due to paralysis of the bowel. If on the contrary we observe movements in the abdomen upon inspection or if we feel movements in the bowel when we palpate the abdomen we decide that we have a case of mechanical obstruction. On auscultation we will hear movements of gas and fluid in the bowel. Borborygmus is another very suggestive sign of mechanical obstruction. If we find that the patient has temperature, we are positive that there is some other cause than a mechanical obstruction, for we know that in a pure case of mechanical ileus there is no temperature. Where there is temperature the rule is that we have a condition that will produce an adynamic ileus and we should look for a septic peritonitis, an inflammatory condition of the right side of the diaphragm, an embolism, thrombosis or some other inflammatory condition in the abdomen.

If we find that the obstruction is mechanical, we know that drugs will not cure the trouble. Nothing but a surgical operation can release the bowel from its incarceration. It will aid the operator if he can know whether the trouble is high near the stomach or whether it is low, near the ileocecal valve. If the attack is acute the obstruction will probably be located above this point. If below, there will generally be a history of a chronic obstruction, extending over a period of weeks or months. Obstructions in the large bowel are generally due to tumors or strictures and their development generally extends over quite a period of time. The location of the obstruction in the small bowel may be roughly

judged by the nature of the vomit and the extent of the abdominal distention. If located high the vomiting will be frequent and the quantity will not be large nor will the distention be great. But if it is low the amount vomited will be very great and the distention will be great.

In closing, I want to repeat that I know of no human affliction that is more to be dreaded than a case of intestinal obstruction in its acute form. Even if the diagnosis can be easily and quickly made and the most desirable treatment promptly accepted by the patient and his friends, yet the dangers to life and future health are always great and too frequently the surgeon's greatest reward is the thought that he did the best he knew how and that is all that can be asked of any man.

NOVOCAINE AS USED IN THE SIMPLER NOSE AND THROAT OPERATIONS

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By local anesthesia we understand, in contradistinction to narcosis, a condition of paralysis of local sensations which takes place when the peripheral endorgan of the sensory nerves is put out of function, or through the breaking of the path of conduction between the end and central organ.

In the year 1884, Kaller discovered that cocaine paralyzed nervous tissue without irritating or destroying it. Since the above date this drug has been used as a local anesthetic. In the surgery of today the use of cocaine for injection has become practically obsolete, as other less toxic substances have been found and have taken its place. In 1905, H. Braun introduced novocaine as the most important drug to take the place of cocaine. The dangerous dose of the latter drug is two grains, whereas novocaine in weak solution can be used in more than ten times that amount.

A very important factor in this work is, limiting the amount of resorption from the part of the body where the local anesthetic is to be applied.

This is best accomplished by the use of adrenalin chloride, which produces a marked anemia of the tissues with which it comes in contact, thus causing the novocaine to become less rapidly absorbed, thereby remaining longer at the place of application and bringing about an infiltration into the surrounding tissues, instead of allowing the same to become absorbed.

TECHNIC

The writer has found the tablets prepared by Sharp & Dohme containing each 1.14 grains of novocaine to be very handy; for example, one tablet dissolved in one fluid drachm of water yields

a two per cent solution, using normal salt solution, make up the amount wished and then boil. Boiling does not effect novocaine. Adrenalin chloride 1/1000 used one drop to each c.c., of the novocaine solution is quite sufficient for all work, but if a great deal of fluid is to be used, then use proportionally less amount of adrenalin. We use the glaseptic ampules, Rx. No. 2 containing one c.c., of adrenalin chloride, 1/3200, as prepared by Parke, Davis & Co. These are exceedingly handy, always sterile, and the contents of one ampule is added to novocaine solution just before using the same, one of these ampules being sufficient adrenalin for any of the ordinary work one may want to do on the nose or throat. In European clinics the novocaine and adrenalin chloride are made up in strengths required, using normal salt solution to which has been previously added dilute hydrochloride acid, three drops to the liter; this prevents deterioration of the adrenalin.

Where large amounts of novocaine are to be used, use a one-half per cent solution, but where smaller amounts will do, then use the two per cent strength. The weaker solution will do all that the stronger will, except that it requires more time. The dose of one hundred and fifty c.c., of the one-half per cent solution is absolutely unharmed. That will be about ten of the above described tablets. The writer has on several occasions seen as high as three hundred c.c. used for one operation, without any apparent harmful effect. In all operations of nose and throat, the combination of the adrenalin and ten per cent cocaine applied locally, once or twice, followed by the injection of the novocaine solution, gives the best results.

SUBMUCCOUS RESECTION OF SEPTUM

First—Brush mucous membranes of septum, as well as lateral walls of nose, with adrenalin and ten per cent solution of cocaine.

Second—Using a record syringe of five c.c. capacity with the long septum needles, inject the convex side of septum before the concave. The first point of injection is opposite the middle turbinate as far back as possible, so that we will catch the naso-palatine nerve, here push the needle through the mucosa and periosteum until one can feel the bone under the needle point and then inject slowly at least two c.c., of one-half per cent solution; more will not harm. When injecting fluid under the periosteum, it will require considerable pressure to force the fluid in. Whenever the fluid enters easily then we should be suspicious that we are not injecting under the periosteum, in fact one can use much pressure and this membrane will elevate from the bone

rather than tear through. When the injection is made properly, the membrane will appear as a big white blister. Next, make a similar injection opposite to and just below anterior end of middle turbinate, this will catch the anterior ethmoidal nerve. The third injection is made on the floor of the nose about one-half way back. This will elevate the periosteum from floor on septum along the vomer, and on lateral wall of nose to attachment of inferior turbinate. The fourth injection is made under perichondrium where we wish to make our incision. The concave side is then injected in a similar manner. The amount of fluid injected on each side of septum is from eight to twelve c.c., which serves the double purpose of providing absolute anesthesia, and second, that of elevating the periosteum from the bone, which makes the operation a very simple one. One should wait from ten to twelve minutes after injecting before beginning the operation.

OPENING OF ANTRUM OF HIGHMORE THROUGH INFERIOR MEATUS

The mucous membranes are first cocaineized as usual, then a long needle, such as is used for septum work, is pushed through mucosa and periosteum and two per cent novocaine solution is injected, using at least two c.c.; this will cause absolute anesthesia together with elevating the periosteum, making the removal of lateral bony wall of inferior meatus very easy, leaving the normal mucous membrane and periosteum as a flap to lay in floor of antrum. This makes a permanent opening which will not close with scar tissue, as is often the case when mucosa, periosteum and bone are removed together.

RADICAL OPERATION ON MAXILLARY SINUS

Paint the mucous membranes of septum, lateral wall of nose, lip, and that of facial surface of superior maxilla with adrenalin and ten per cent cocaine. Then wait three minutes and inject five c.c., of one or two per cent novocaine solution beneath periosteum of facial surface of superior maxilla, pushing the needle in the various directions so that the whole periosteum becomes elevated from the teeth to the margin of orbit and from mid-line back laterally as far as the operation will extend. Next, inject two c.c., of same solution under periosteum of lateral wall of inferior meatus, wait ten minutes then one can do any of the various modifications of the radical operation absolutely painless.

ALVEOLAR NECROSIS OF SUPERIOR MAXILLA

After painting mucosa of lip and over alveolar process with cocaine, inject two or more c.c., of two per cent solution under the periosteum of

facial surface of alveolar process around the region of tooth from which the necrosis begins. This is usually sufficient, but to be absolutely sure, it is a good plan to inject one c.c. of same solution under periosteum of lingual side.

For removal of teeth, inject one to two c.c. of two per cent solution under periosteum near the teeth to be removed on both sides of alveolar process. After waiting ten minutes these teeth can be extracted without any pain whatsoever.

ALVEOLAR NECROSIS OF INFERIOR MAXILLA

In larger necrosis it is necessary to infiltrate about two c.c., of two per cent solution in the region where the inferior dental nerve enters the inferior dental foramen. In smaller necrosis or for the extraction of teeth, just the local injection under periosteum on both sides of alveolar process will suffice.

TONSIL ENUCLEATION

Brush the soft palate and pharynx with ten per cent cocaine to prevent gagging. After three minutes inject at least two c.c. of a one and one-half per cent solution of novocaine under mucous membrane of posterior pillar, using the same points for injection as one does when injecting cocaine. Then inject the anterior pillar in a similar way. Next, inserting the curved needle directly above the tonsil and pushing the same laterally so that we inject five c.c. of fluid back of tonsil. In fibrous tonsils where there are many post inflammatory adhesions it is well, in addition to the above, to insert the needle at the lower most part of tonsil, push the needle laterally until its point is behind the tonsil, and there inject from three to five c.c. more. It is well to wait twelve to fifteen minutes before operating, although anesthesia will be present in ten. Removing tonsils under cocaine anesthesia is always painful as well as sickening, while those removed under novocaine are never painful.

ADENOIDS

In removal of adenoid tissue in young adults or in children, where we do not wish to give a general anesthesia, one first brushes the nasopharynx with ten per cent cocaine solution, both through the mouth and nose. After a few minutes, we insert a long needle through the nose and infiltrate the attachment of the adenoid tissue in the vault of pharynx with a two per cent solution of novocaine. After waiting ten minutes the adenoid tissue can be removed, absolutely without pain, whereas if only the cocaine is used, there is always pain connected with the operation.

TRACHEOTOMY

Tracheotomy can be performed under novocaine anesthesia. It is best to first inject in the

depths, near the trachea at the level of the cricoid cartilage, here a rhomboid shaped infiltrated area is made by pushing the needle in the various directions necessary. Care should be taken not to inject too much fluid directly on and in front of the trachea, because the edema produced by the injected fluid will cause trouble from pressure on the same. For this deep infiltration use ten to fifteen c.c. of one-half per cent solution. Directly under the skin infiltrate two per cent novocaine in a rhomboid shaped area, the size and amount of fluid depending on how long the operator wishes to make his incision.

For the removal of small tumors, lymph glands, and cysts, the simple infiltration of from one-half to one per cent novocaine solution around will suffice. The tying of the various blood vessels of the neck can easily be performed in this manner, with the exception of patients who are very sensitive or frightened.

Many of the more serious and complicated operations can be, and often are, done under novocaine anesthesia.

ORTHOPEDICS IN GENERAL PRACTICE

N. SCHILLING, M. D., New Hampton

For the general practitioner to invade a field apparently so exclusive as orthopedic surgery, may appear presumptuous and ill advised. But it shall be my endeavor to show that even this esoteric specialty is dependent to a large extent on the intelligent co-operation of the family physician. In fact, it has seemed to me, that to refer to the specialist every case of deformity, is unnecessary, undesirable, and impracticable.

In tuberculous joint disease, it is the doctor engaged in general practice, who must recognize and interpret correctly, the earliest manifestations of this frequent malady. Its prognosis will vary almost directly with the stage in which the diagnosis is made and a fixation dressing is applied.

In many orthopedic patients the treatment is liable to become irksome and tedious. In addition to constant supervision of the general health, the mechanical part of the after care requires attention. It must be obvious that a journey to a distant specialist, every time a cast needs to be renewed, or an appliance readjusted, would entail needless hardship and expense.

If the task of managing a prolonged after treatment is assigned to the general practitioner, and if he is held responsible for an early diagnosis, it would seem that he might presume to treat, on his own responsibility, the more common orthopedic diseases.

It is often assumed that orthopedic surgery consists in the application of mechanical appliances to deformed limbs. When we reflect that joint lesions may result from intestinal stasis; that they are often a manifestation of local or general infection; when we pass in review the deformities incident to such constitutional diseases as rickets, Barlow's disease and tertiary syphilis. It is apparent that the orthopedic surgeon needs to be a scientist as well as a mechanic. As in every other branch of the surgical art, a due appreciation of the laws of physiology and a thorough knowledge of anatomy and pathology, form the basis of successful practice. It was not his mechanical ingenuity alone, that enabled Abbott, a few years ago, to evolve his brilliant and epoch-making treatment for lateral curvature of the spine.

From anatomical data he established the principle that this deformity could take place only while the spinal column was in a flexed position. This naturally led to the deduction that in order to remove the curvature, the various parts of its anatomy must retrace the same route, they took in its development. Hence, in disregard of all precedent, the spine is flexed and not extended when the Abbott corrective jacket is applied.

It is another fundamental orthopedic principle that, in the correction of any deformity, the parts involved must be brought back, not only to their normal anatomical position, but that they must be placed in an "over-corrected position." This is well illustrated in the ordinary club-footed deformity. If it is not overcorrected the natural movements of the foot will be impossible. Obviously, it is as essential to remove all restrictions to normal motion, as it is to remove the deformity.

When Abbott, in 1911 reported the application of this law in the correction of fixed lateral curvature of the spine, another milestone in the progress of modern orthopedic surgery had been attained.

It is true that in almost all other deformities, not due to loss of tissue from disease, fixation in an overcorrected position had formed an important part of the treatment. But in scoliosis it had never been possible to overcorrect the distorted parts because the force had always been applied against the deformity, regardless of the arc through which the spine had passed in the development of the curvature.

In other words, it had always been attempted to over correct lateral curvature by extending the spine. Bearing in mind the mechanics of the spinal column and the peculiar anatomical conformation of the individual vertebra, it occurred

to Abbott, that in extension the spine must be locked; that is rotation of the vertebra could not occur. This then explained the palpable fact that scoliosis always developed with the spine in flexion, and of course led to the conclusion that it must be placed in this position for correction.

Incidentally it may be remarked that, imbued with scientific faith in the correctness of these principles, Abbott applied an amount of force that would have startled a less confident operator.

While flexion and over correction constitute the essentials of Abbott's method, his confidence in its ultimate success, was based on a full appreciation of Wolff's law of "functional adaptation."

According to this principle, "if any part of the anatomy is changed from the normal posture to the abnormal, and habitually used, the structures involved undergo a change throughout their entire texture, to adapt themselves to the new position. The converse is also true, i. e. if a deformity in which the parts involved have become changed in their shape, is brought back to a corrected position and used, those parts again undergo a change and become normal in their contour."

It is pertinent to inquire to what extent the general practitioner is concerned with these rather theoretical considerations. Even a cursory glance at the record of empiricism will supply the answer. In the progress of orthopedic surgery it has played an ignoble role indeed. Theory must pave the way for action and this fact can be disregarded no more by the man in general practice than by the one engaged in special work.

Except in cases of inflammatory disease the "primal laws" above mentioned govern the correction of all deformities. Whether we have to deal with a club foot, knock knee, or wry neck, it is only after the parts involved have been over corrected, maintained and used in the new position, for varying periods of time, that the "bones, muscles and ligaments become normal in their shape and structure."

It is evident too, that the fundamental principles of orthopedic surgery are comparatively simple. It may be assumed therefore, that their application in practice is simple.

Probably the most frequent orthopedic infirmity for which the general practitioner is consulted, is flat or weak feet. One author declares that half the American people need treatment for this condition.

No doubt, the more general use of hard floors and concrete sidewalks, help to explain the increasing frequency of this painful disability.

Leaving out of consideration all inflammatory

conditions and such rare clinical pictures as erythromelalgia and Raynaud's disease, the symptoms resulting from weak or flat feet are to be differentiated from those occurring in varicose veins, the intermittent claudication of arteriosclerosis and more particularly from that indefinite toxic state designated by that futile term chronic rheumatism. An abrupt change from a sedentary occupation to one that requires standing for hours at a time, a rapid increase in weight, and the wearing of ill fitting shoes are all factors that tend to develop weak or flat feet. It needs to be emphasized, however, that the term "flat foot" is a misleading one, and it would be conducive to a more early recognition of the clinical syndrome under consideration, if less importance were attached to the shape of the foot and more attention paid to its position while standing and walking. Long before the arch of the foot has become flattened, indefinite aches and pains in the feet, ankles, legs and back, may indicate that a subluxation of the astragaloscaphoid articulation is impending.

But the earliest, and certainly the most significant clinical evidence exhibited by this class of cases, is eversion, or turning out of the foot, while the patient is actively standing or walking. In the medical inspection of school children a timely recognition and a correct interpretation of this prodromal sign of weak feet is of especial moment.

For in a child, who walks habitually with the foot everted, the larger portion of the body weight is thrown directly upon the astragaloscaphoid articulation, and it is only a question of time when the arch will give way, resulting in a deformity more or less painful and permanent.

It is evident, therefore, that the first consideration in the treatment of weak feet is to turn the foot inward, so that the body weight will be distributed over the dorsum of the foot, further outward. A simple, and in the early stages, an effective means of maintaining inversion, is a firm strong shoe, built along correct lines. Its inner border should approach a straight line and the inner side of the heel should be raised and extended well forward on the sole.

It is almost a stereotyped statement that arch supports do more harm than good. It is a foregone conclusion that such will be the result unless their use is accompanied by inversion of the foot.

Personally, I have found the arch supports for sale in the average shoe store, quite generally useful. Of course if they are made to order from a plaster model of the foot, it may be expected

that they will be superior in quality and efficiency.

In its more advanced stages, flat foot really amounts to a subluxation of the astragalo-scapoid articulation, and the first step in its treatment consists in a reduction of this deformity. Moreover, as in the correction of other deformities, we must apply the principle of over correction and follow Wolff's law of functional adaptation. If the parts involved are to be restored to their normal shape and structure, the everted foot must be turned inward, and it must be maintained and used in this position. A plaster paris dressing will best accomplish this purpose. And it is undoubtedly one of the most common errors in orthopedic surgery to remove the retention dressing too soon. Unless it is held in an over corrected position for months, even the beneficent action of Wolff's law will not restore the arch of a foot fixed and flattened through functioning possibly for years, in a faulty posture.

And furthermore, if its restoration to normal lines is to become permanent, it is essential that suitable after treatment is instituted.

From what has been said regarding over correction and Wolff's law, it may be inferred that shoes and appliances which tend to maintain inversion of the foot will meet the indication. There are two difficulties with which the reader of every paper has to contend; either he will exceed the time limit or he will be woefully incomplete in his remarks. I shall choose the latter alternative and conclude with the contention that the fundamental principles of orthopedic surgery are comparatively simple, and that in their practical application the general practitioner need not resign his function.

THE IMPORTANCE OF CLINICAL HISTORY

GEORGE A. PLUMMER, M. D., Cresco

I am told by men who do a great deal of consultation work that it is the rule rather than the exception, that the clinical history is taken in a rather lax manner by the majority of physicians. In fact many times the attending physician makes his diagnosis correctly for the first time, while listening to a carefully elicited clinical history by the consultant.

The late Dr. Wright of Carroll, Iowa, has said in one of his papers that while not many diseases have pathognomonic symptoms, there is always a mass of clinical evidence that if carefully

analyzed points to the malady as definitely as the compass tells the true directions.

Dr. J. B. Murphy, as is well known, lays great stress on the matter of history taking, and cites instances where the changing of a single word in the history changes entirely the diagnosis, consequently the treatment, and thus makes all the difference in the world, in the welfare of the patient.

Dr. J. C. Bloodgood, in his talks on surgical diagnosis, emphasizes the necessity of a proper interpretation of the patients description of his sufferings—lest we be mislead in our conclusions. Some patients as a matter of pride, understate their suffering, while others from various motives greatly magnify theirs. This exaggeration is usually not with the intention of deceiving the physician, but comes largely from the unconscious egotism of illness and the desire to obtain relief by impressing the medical attendant of its pressing necessity.

Dr. Arthur D. Bevan, in his paper before the Iowa State Society this summer, places history as the first or greatest aid to diagnosis. Physical finding, second—laboratory findings, third, and the X-ray fourth.

We should if possible obtain the history from earliest infancy, for we may find much to influence our diagnosis. Especially so since there is so much teaching about focal infections, and the host of troubles that have been traced directly to these infectious foci, the beginning of which may have been from an acute infection some time in early childhood.

Dr. Charles Mayo often tells the profession that many cases come into the clinic and some get to the operating rooms with a record of having a *negative* history, and he goes on to say that it is perfectly easy to get a definite history after the laparotomy has revealed the secret—why—because we know just what questions to ask, that it seems to me tells the whole story.

I am therefore making a plea for a more painstaking clinical history and some kind of a record made of the same.

The habit of keeping case histories is well worth acquiring in that it promotes accuracy of observation; completeness of examination as well as providing trustworthy material for future use.

These with other habits of thought in the words of Butler "make the difference between the man who sees without learning, and the man who learns by seeing."

There are drawbacks, the work involved and the time consumed, but these can be reduced to the minimum, by making use of one of the va-

rious card index outfits that are now on the market.

I wish to report briefly a case that seems to me to have some bearing on the subject in hand, in as much as it is atypical, and yet some part of the history pointed to the real trouble.

This is a surgical case that I am permitted to report through the courtesy of the surgeon who operated, Dr. Geo. Kessel. This woman came into Dr. Kessel's clinic with a diagnosis of pus-tubes, and I think you will agree that there were some grounds for the diagnosis. Her history is as follows:

Mrs. A. E. S., age..., married five (5) years. No children.

Family History—Good.

Past History—Six or seven years ago she had a diagnosis made at a large clinic, of tuberculosis of the left kidney. She was sick for about six months, but made a good recovery. Menstruation always regular and normal. Twenty-eight day type. No pain, but flows for about one week quite freely.

Present Illness—Menstruated normal February 1, 1914, then went six weeks to March 12th, and flowed one week. No pain. The middle of April menstruated again with a great deal of pain, the first day only. Flowed one week. Middle of May, menstruated again. Not much pain. June 1st, began flowing again and this time she kept on flowing, except for a day or two at a time, up to the time when she was operated upon. She had a great deal of pain in her left side. At times there would be sudden and sharp attacks so she had to lie down for a short time. She was sick in bed for two weeks before coming to the hospital, during which time she had chills and fever and much pain in the pelvis. On admission to the hospital her temperature was 102° F. There was a mass palpable in the left ovarian region which was very tender. There was evidence of pelvic inflammation, i. e. the pelvic tissues were indurated and uterus and ovary were not movable. The right side showed less involvement.

All of this, the length of time since the appearance of the first symptoms between four and five months. The chills and fever, the pelvic induration, would surely make one think of an inflammatory thing, but there is a little more to the history. On two occasions she developed suddenly severe attacks of pain of a tearing or cutting quality in the left ovarian region and on each occasion she fainted away and was very weak and pale thereafter.

A diagnosis of ruptured tubal pregnancy was made and she was operated upon July 18th, when the diagnosis was confirmed. There was no free blood, but many partly organized clots, and there were many new adhesions. The ruptured tube was removed, recovery was uneventful.

NITROUS OXIDE AND OXYGEN FOR GENERAL ANESTHESIA

H. Risk, M. D., Waverly

Nitrous oxide sometimes called laughing gas. This compound according to Simon's chemistry, was discovered by Priestly in 1776. Its anesthetic properties were first noticed in 1800 and later used during the Napoleonic era and at the battle of Moscow it was used for surgical interference. It was first introduced into the United States at Hartford, Connecticut, in 1844 where it was used in dentistry. It may be easily obtained by heating ammonia nitrate in a flask at a temperature not to exceed 250 C. or 482 F. when the salt is decomposed in nitrous oxide and water. For anesthetic properties it should be passed through two wash bottles of caustic soda and ferrous sulphate, respectively. These agents will retain any impurities that may be formed during the decomposition, especially from impure salts. Nitrous oxide is a colorless almost inodorous gas with a decided sweet taste. When inhaled, it causes exhilaration, intoxication and anesthesia, working upon the higher cerebral centers and finally asphyxia.

There are several notable changes that take place in the blood. The hemoglobin is reduced, due to the presence of nitrous oxide, but soon returns to normal after a few inhalations of oxygen. From recent investigations from blood counts made, while the patient is under the anesthetic, it shows in 81 per cent of the cases the hemoglobin has been reduced from 10 to 40 per cent and a striking contrast with that of pernicious anemia, but is only when the patient is anesthetized with nitrous oxide and before the administration of oxygen. The discoloration of the blood is due to the carbon dioxide which is stored up in the system.

The preliminary steps in preparing patients are as usual for any operation, bowels thoroughly cleansed, the night before, and an enema about an hour before the gases are to be given. It has been the custom to administer morphine 1/12 to 1/4 grains with atropin 1/300 to 1/150 about thirty minutes before the operation. Crile and Lowder recommend the administration of morphine grains 1/6 and scopolamin grains 1/150 in alcoholics or for particularly large, muscular patients the dose may be increased to morphine grains 1/4 and scopolamin grains 1/100. This is the maximum dose, however, and very seldom used. This will help to quiet the patient and also aid in checking the secretions from the buccal cavity. It is always best to reassure the patient that the

inhaling of nitrous oxide is not as uncomfortable as some of the other general anesthetics. It is not best to assure the patient that there will not be any nausea or vomiting, as this may result from too much nitrous oxide as well as not enough on the start, and the morphine may cause nausea and vomiting. The best and safest way to administer nitrous oxide is to allow the stream to run on what is termed a needle spray. The stream is about the size of a knitting needle and it is always best to turn on a few dashes of oxygen at the same time. This will insure an even mixture. Have the mask applied very close to the nose and the mouth covered with a damp towel. This will not allow the atmosphere to reach the mixture of gases. The total exclusion of air is necessary and in so doing you lessen the chances of nausea and vomiting while the patient is being anesthetized. The proper mixture of nitrous oxide and oxygen must be empirically ascertained for each patient, as no two patients will act the same. The average patients will take the gases without trouble, but remember that trouble may occur at any time, such as nausea, vomiting, raising of the hands and feet. The hands should be placed under the hips, palms down. This will aid the surgeon in keeping the hands and elbows off of the field of operation while the patient is being anesthetized, as the patient should be ready for surgical procedure before the anesthetist starts the anesthetic.

The anesthetist never should hurry and the slower he administers the gases, the better they are received, and this always inspires more confidence in the patient.

There are three stages of this anesthetic:

First: Is to assure the patient that everything is all right and keep them as quiet as possible, then slowly turn on the needle spray of nitrous oxide and a few dashes of oxygen at the same time.

Second: This is more difficult. The patient passes to unconsciousness and can no longer be controlled by suggestion and the anesthetist must depend entirely on the gases for control of patients. In some cases, during this stage, unpleasant dreams or sensations occur which often cause marked resistance. Nausea and vomiting may occur without warning and the tongue slip back into the pharynx, the eyes will roll about and the patient's respiration may become very rapid, from thirty-five to fifty per minute. The administration of oxygen will usually be of service and help to quiet the patient in a few seconds. It is best to have the chin so it can be raised, the lower teeth brought forward over the upper teeth, and in this way the tongue is held in place.

Third: The eyes are quiet, and the upper lid may be raised without resistance. Never touch the conjunctiva, as the chin reflex is absent when the patient is surgically anesthetized. The deglutition reflexes are absent and the respiration should be from twenty to thirty per minute. This is the stage of complete anesthesia.

Cyanosis means respiratory obstruction and must be remedied very quickly by readjustment of the jaws and administration of more oxygen. The mask should be removed and a small instrument or wooden block inserted between the jaws, the tongue pulled forward and respiration re-established by artificial respiration, at the same time allowing the oxygen to be inhaled or forced into the lungs by the high pressure cylinders. The color of the patient should be watched very closely. Too much nitrous oxide will cause cyanosis and pallor. Too much oxygen will cause the same, therefore an even mixture should be maintained. Heavy smokers and patients who use alcohol will have coughing spells and irritation of the mucus membrane, which will delay the anesthetic. This may be overcome by the even mixture of nitrous oxide and oxygen.

When it becomes necessary to give ether during the nitrous oxide and oxygen anesthesia, it should be given very slowly so that coughing and respiratory spasm may be avoided. It is always safe to change from the gases to ether, if for any reason, it may become necessary to change, as in some cases, to have sufficient relaxation, ether vapor is added and should be discontinued when complete relaxation is secured and patient carried through the rest of the operation on nitrous oxide and oxygen.

Special cases for nitrous oxide and oxygen:

Shock and collapse, abdominal operations, operations around the face, mouth and neck, nephrectomy, laryngectomy, brain operations, acute infections, such as boils and carbuncles, pathological conditions of the lung.

(Crile says, in cases of infections, if nitrous oxide and oxygen be used, the phagocytes remain ready for action and the danger of infection is therefore lessened.)

Contra indications. Practically the contra indications of nitrous oxide and oxygen are the extremes of ages, and myocarditis, apoplectic subjects and patients with obstructed air passages. Patients who use alcoholic stimulants, that usually make the third stage of anesthesia so hard under ether and chloroform, will take the gases without moving and with comfort.

The relative mortality under various anesthetics, as given by Dr. Luke in his "Guide to Anesthetics" is as follows:

Nitrous oxide and oxygen.....1.....	100,000
Ethyl chloride1.....	12,000
Ether1.....	10,000
A. C. E. Mixture.....1.....	7,500
Chloroform1.....	1,000

"Beck" gives about the same report, says "He has never seen any fatalities from the administration of nitrous oxide and oxygen and reports from various anesthetists 112,000 cases."

In the New York institutions, dogs have been anesthetized with nitrous oxide and oxygen for three days successfully without any harmful results.

Nervous patients will take nitrous oxide and oxygen without trouble when the dread of ether or chloroform alone will cause nausea and vomiting.

The Advantages of Nitrous Oxide and Oxygen

1. It is pleasant for the patient.
2. Less time consumed in obtaining surgical anesthesia.
3. Causes little or no depression or shock.
4. Patient comes from under its influence quicker.
5. It is followed by little or no depression, nausea or vomiting.
6. It seldom causes any irritation to the respiratory organs.
7. It never causes any irritation to the genito-urinary tract.
8. It does not impair the patient's resistance against infection.
9. Much safer in operations where patients have nephritis and pathological conditions of the lungs.

The Disadvantages of Nitrous Oxide and Oxygen

1. The relaxations are not always complete.
2. It requires a special apparatus.
3. A skilled nitrous oxide and oxygen anesthetist to administer it.
4. The cost is greater than that of other anesthetics.

PROGRAM OF THE AMERICAN PROCTOLOGIC SOCIETY

The preliminary program of the seventeenth annual meeting of the American Proctologic Society will be held June 21st and 22nd at San Francisco, California, with headquarters at St. Francis Hotel, and meeting place at the Civic Auditorium.

Program Commencing Monday, June 21

Executive Council meets at 11 A. M.

First Regular Session at 2 P. M.

Annual Address of the President—

Subject: "Retrospect and Prospect,"

Louis J. Krouse, Cincinnati, Ohio

Papers

1. A Review of Proctologic Literature for 1914,
Samuel T. Earle, Baltimore, Md.

2. Prolapsus Recti and its Mechanics,
Wm. M. Beach, Pittsburgh, Pa.
3. Causes of Dissatisfaction with Hemorrhoidal Operations....Rollin H. Barnes, St. Louis, Mo.
4. Report of a Case of Carcinoma of the Sigmoid; with Stereo-Radiograms,
Walter Irwin Le Fevre, Cleveland, Ohio
5. Emetin Hydrochloride in the Treatment of Amebic Dysentery,
Geo. B. Evans, Dayton, Ohio
6. Cases of Anal Tuberculosis Treated with Radium, Frank C. Yeomans, N. Y. City., N. Y.
7. Congenital Dilatation of the Colon,
Louis J. Hirschman, Detroit, Mich.
8. The Importance of Position in Examination, Operation and Treatment of Rectal Diseases,
Granville S. Hanes, Louisville, Ky.
9. Which is the Best Anesthesia to be Used in Anal and Rectal Surgery,
Wm. H. Kiger, Los Angeles, Cal.
10. Further Observation on the Treatment of Pruritis Ani by Autogenous Vaccines,
Dwight H. Murray, Syracuse, N. Y.
11. Peritoneal Adhesions and Their Relation to Intestinal Stasis,
Jas. A. MacMillan, Detroit, Mich.
12. Constipation: Its Treatment,
Lewis H. Adler, Jr., Philadelphia, Pa.
13. The Ultimate Nervous Results of Acute Angulation of the Sigmoid with Consequent Fecal Stasis..W. H. Axtell, Bellingham, Wash.
14. Rectal Ulceration in Pellagra,
J. Coles Brick, Philadelphia, Pa.
15. (a) Fecal Abscess in Pouch of Douglas, Following Typhoid: Report of Case. (b) Ischiorectal Abscess in Nine Day Old Infant. Report of Case,
Alfred J. Zobel, San Francisco, Cal.

ROSENOW AND ROBINSON GO TO THE MAYO CLINIC

Dr. E. C. Rosenow of Chicago has been appointed chief of the bacteriological department of the Mayo Clinic and Foundation, and will be located permanently in Rochester about July 1st. Dr. Rosenow will devote his whole time to research work at the Mayo Foundation. His reputation is so wide that no introduction is necessary.

Dr. Samuel Robinson, late assistant general surgeon, Massachusetts General Hospital, has severed his connections with the Boston institution, and will shortly take up his residence in Rochester, and will devote his time to surgery of the chest at the Mayo Clinic.

These men who have been closely identified with advanced work, will add additional strength to the Rochester institution.

The Journal of the Iowa State Medical Society

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THE WATERLOO MEETING OF THE STATE SOCIETY

There appears to be no difference of opinion among those who attended the Waterloo meeting, that this was the largest and best meeting the Society has ever held. The success of this meeting was due to several things, the most prominent of which undoubtedly was the united effort on the part of the local profession to impress the profession over the state that the closest unity of spirit existed among the profession at Waterloo, and that nothing would happen that would in any sense of the word mar the pleasure of the meeting. It is very easy for a local profession to create in advance, a spirit of doubt and uncertainty as to the success of the meeting, but it was apparent that there were no disloyal elements in the profession at Waterloo, and nothing had been left undone to foster the best of feeling. The meeting was a success in that the attendance upon the sessions was unusually large, and the best of spirit was constantly manifested.

Dr. Eschbach showed himself to be a master in presiding over a body of men for scientific work. His rulings on all occasions gave the utmost satisfaction, and the dignity with which he presided excited the admiration of everyone. The program so far as the presiding officer was concerned, was kept up to time, the discussions were prompt and carefully kept within due limits.

The ladies accompanying the doctors were looked after in a very attentive way by the wives of the local profession and others, so that

nothing but commendation was heard as to the courtesies and entertainments by the local committees.

The accommodations provided for at the hotels were all that could be asked for, and there were no expressions of dissatisfaction in regard to the accommodations or prices that were paid.

The Society was fortunate in having several distinguished guests, particularly Dr. De Schweinitz of Philadelphia, Dr. Reed of Cincinnati, and Dr. Case of Battle Creek and Chicago. We are quite sure that these gentlemen from centers of population and centers of medical influence, were quite favorably impressed with the profession of Iowa. While we cannot boast of any big men, we can claim a high degree of average respectability.

The next meeting of the Society will be held in Davenport, and it goes without saying that a heavy responsibility rests upon the committee of arrangements for the next meeting, to save themselves from unfavorable comparison with the Waterloo committee.

We are not good at remembering figures, but the 614 registrations at Waterloo was considerably more than the registrations at any previous meeting. The success of a meeting cannot altogether be determined by the number who register, and is best measured by the number who are present at the various sessions.

IMPROVEMENTS AT AGATHA HOSPITAL

It is with sincere pleasure that we note improvements at Agatha Hospital, Clinton. Within the past few months the hospital has installed a clinical laboratory and an up-to-date X-ray machine. Presumably the laboratory and X-ray is in hands of competent operators. We trust this very commendable movement will be followed by an improvement in administration; that the reprehensible practice of rotating nurses at the operating table will be abandoned and also the scarcely less objectionable practice of assigning pupil nurses as specials before they have completed less than one-half their period of training. With an improvement in administration it is fair to presume will go a better supervision and discipline and a better conception of surgical cleanliness.

We have never lost faith in publicity as a means of correcting abuses and short-comings. Most of our so-called hospitals have been in a deplorable condition so far as scientific spirit is concerned or even of a conception of the duty of a modern hospital. It has cheered us immensely to witness the changes that have taken place

in the hospitals of Des Moines and now in Clinton and probably elsewhere. We are saying this in encouragement of the members of our profession who have had the courage to protest against a spirit of indifference and against the comfortable policy of letting things alone even at the risk of falling behind in the race.

Apropos to the above comes the information that Park Hospital, a private corporation at Mason City, has been reorganized by adding Dr. Everett Graham of Chicago as surgeon-in-chief. It is well known that a group of men in Mason City representing different lines of practice, have joined in building and organizing a hospital for the purpose of conducting medical and surgical practice in accordance with a spirit of medical progress. They have accepted the advantages of team work and have equipped the hospital with modern means of diagnosis and treatment of disease.

We feel that the profession in this enterprising town are demonstrating a feature of medical practice that must be adopted in other cities if they hope to succeed in practice in the larger way. The medical profession of Iowa has been endeavoring to compete with the outside world individually, and have been seriously handicapped thereby. The great advantage that our Mason City brethren will enjoy is that of having full control of the hospital environment, and the fault will rest with them if they do not succeed in making Mason City an influential medical center.

Mercy Hospital, Davenport, should be included among the institutions that are taking advance steps in the direction of efficiency. Davenport has the advantage of a number of well trained physicians and surgeons who are entitled to rank among the real workers in the profession. Heretofore they have been handicapped in-so-far as relates to high professional work on account of not having the necessary hospital facilities. We are very much pleased to learn that Mercy Hospital is taking steps in the direction of an improvement. At the present time it is quite impossible for our State University to adopt a hospital year without arranging to send their students to hospitals outside the state because there are not more than two or three of our institutions that can offer anything at all in the direction of educational advantage. We hope to include additional hospitals from time to time among the number which are looking forward to a higher degree of efficiency.

THE MAYO FOUNDATION AND THE UNIVERSITY OF MINNESOTA*

The medical world has been interested by the announcement that the most celebrated medical and surgical foundation known to history was to be affiliated with the University of Minnesota for the purposes of research and graduate teaching, but has been more than astonished at the opposition raised by those in high places in the medical faculty of the university and the profession of Minneapolis and St. Paul. This opposition would be absolutely unexplainable if it did not arise mainly from the internist's side. It is not to be supposed for a moment that the opposition does not recognize the greatness of the foundation or of the advantages of its possession to the University; but what appears to trouble them is that the Mayo clinic with only reasonable,—it may be said,—business sagacity, hold control of its management until the university has shown its fitness to take it up in such a way as to meet the highest ideals of graduate teaching.

The Carnegie Foundation met similar objections from many sources, but the money would have been gladly accepted if no conditions had been attached to its distribution.

These thoughts are suggested by an editorial in the March number of the *Journal-Lancet* in which it is said, "the point has been raised that if the Mayo Foundation is interested in the progress of the University Medical School, why does it not give the income from the proposed investments to the university for research work upon its own campus and thus perpetuate the work and name of the Mayos and at the same time put the school upon a higher plain and thereby interest other donors to follow their example." Dr. Green who appears to be the leader in this opposition movement complains, "There is no money gift to the university in this proposition." We are led to infer that the money would be acceptable, but we suspect that men who could build up this great foundation would have the foresight to do just what they have done in safeguarding the product of a life-time of most strenuous effort.

There are several suspicious statements made by Dr. Green in relation to proposed affiliation. We note one of them: "The remote possibility under an earlier proposition that the university might, at some time in the future, in event of the collapse or deterioration of the Mayo Clinic, acquire ownership of the endowment fund and

*The report of the special committee of the Board of Regents reached us too late to be published in this number.

buildings of the firm or foundation, was qualified by the curious sentence—*‘but if at any future time the Mayo Clinic should again be re-established on a basis satisfactory to the board of regents, the relationship between the Mayo Foundation and the Mayo Clinic shall be resumed.’*” Just what this refers to we do not know as we can find no reference to a proposition of this kind in the articles of incorporation quoted by Dr. Green, or in the statement signed by President Vincent of the university, Dr. Lyon, dean of the medical school, Dr. J. E. Moore, senior surgeon, Mr. Litzenberg of the board of regents and Dr. Beard, chairman of the committee. It looks like the tail end of something formerly proposed or it may be hearsay; it certainly has no relation to the present argument. Dr. Green makes frequent reference to the Mayo “firm.” Nowhere in the articles or in the official statements is the term “firm” used. The purpose is apparently to convey the impression that a private “firm” is endeavoring to absorb the University of Minnesota; that is to swallow it so completely that there would be no more mind or memory of the great university, only the Mayo Clinic for private profit and aggrandizement. Truly this comes to us as a shock after a rather intimate acquaintance of more than forty years.

It does not appear from the argument that the opponents of affiliation object to graduate work being provided for by the Mayo Foundation at the university, but it must be by direct gift administered by some plan of their own. A hope is expressed that at some future time the state will make proper provision for graduate work at the university without private aid. The information we have on the subject of graduate work at our state universities is not encouraging; there are serious objections in the minds of most legislators to the appropriation of funds for graduate work and that most of the so-called graduate work is cared for by undergraduate professors. This arrangement may serve for M. S. degrees or D. Sc. degree, but not graduate work in medicine which none of our state universities have the instructors or adequate facilities for. Provisions for Christian scientists, osteopaths and chiropractors are more in the legislator's mind than expensive appropriations for a small body of special professional students.

Universities like Harvard, Johns Hopkins, Columbia and the University of Pennsylvania that have large incomes independent of state legislation, may do this kind of work. The sentiment in relation to this is fairly shown in the recent address of the governor of Wisconsin.

The University of Minnesota School of Medicine is recognized as an excellent institution, and belongs to the State of Minnesota, but it must be remembered that it has its reputation to make. What there is in the future for it will depend on the liberality of the state and the wisdom of the board of regents. The Mayo Clinic has a reputation as wide as medical literature itself. Wherever books and magazines are read the Clinic is known. It does not belong to Minnesota except geographically; it belongs to the entire professional world, and to an outsider grave doubts must arise as to the wisdom of forming any alliances, especially of an entangling character. As to its future, we can see no reason why it may not as safely prosper under its own board of trustees as under the board of regents of the university. It is not probable that all managing wisdom will die with this generation, and with a rich endowment its future is as safe one way as the other. It would be absurd for the Mayo Clinic to organize a full medical school, but it can conduct Fellowship courses that can never be duplicated by the state university. According to the statement of the dean of the “Graduate School,” there are six students taking graduate work; what the character of this work is we do not know. We are reliably informed that there are at the present time thirty-six young medical graduates taking three years Fellowship work at the Mayo Foundation and Clinic and over sixty waiting and about ninety who have completed various courses. This tells the whole story.

We do not know what is in the Mayo mind, but we assume that the unique proposition grows out of an intense patriotic feeling of helpfulness to the university of the state they so dearly love. The conditions imposed are reasonable; only such as would be demanded by any far-seeing business man. The ultimate provisions are clearly stated in the plainest language and are as follows:

“The endowment fund is to remain untouched, is to be increased annually in principal and by accrued interest, during the experimental period of affiliation. Should this experimental period be undertaken and prove successful, the founders of the Mayo Foundation have already provided that, with the approval of the university, the present trustees in charge of the endowment fund shall surrender it, for entire control, in investment and expenditure, alike, under the purposes declared in the gift, to the board of regents of the University of Minnesota. No restrictions are placed upon the regents, excepting that the educational and research work is to be

maintained at Rochester in affiliation with and directed by the university." The above is taken from the general statement and argument signed by the university committee.

We have tried to follow the intricacies of the argument for opposition, but have given it up.

It may be said that the question of an affiliation between the Mayo Foundation and the Minnesota State University is a private domestic affair, but having been published in the official journal of the Minnesota State Society, we feel at liberty to comment on a condition that appears to us so extraordinary.

We have come to look on the Mayo Foundation and the Mayo Clinic as a national institution, one that has contributed immensely to the credit of American medicine and surgery, and throughout the length and breadth of the land the profession feel proud of it. The university affiliation is but an incident in its history and cannot add to or take from it anything of its well earned place among the great medical institutions of the world.

Dr. Theodore Davis Alderman of Brooklyn, New York, in the Eclectic Medical Journal of April, 1915, presents some interesting statistics in relation to insanity reported in the different institutions. In addition to presenting these statistics he undertakes to explain why so large an increase of insanity should occur. The explanation does not materially differ from explanations found elsewhere, and we shall confine ourselves to offering the statistics as they appear in Dr. Alderman's paper.

The number of insane reported in the different institutions increased from 150,151 in 1904 to 187,791 in 1910, an increase of twenty-five per cent in the six years. The total population of the United States in the same interval increased only 12 per cent. Therefore, the insane in institutions increased twice as fast as the population. Then again in 1904, out of every 100,000 persons in the total population 184 were reported in the institutions for the insane, while in 1910, six years later, this number has increased to 204. In other words, in the year 1904, one person out of every 543 was confined to an institution for the insane, while in 1910 this number has changed, increasing to one person out of every 490! This seems to be connected with the similar increase in the number of annual admissions to the different institutions, as 60,769 persons have been admitted in 1910, as compared with the 49,622 admitted in 1904, an increase of twenty-two per cent. The number of admissions therefore per 100,000 population increased from sixty-one in 1904 to sixty-six in 1910.

INCREASED DEATH RATE IN PEOPLE OF MIDDLE LIFE

Dr. Whalen in his president's address (Illinois State Medical Society) gives some interesting statistics in relation to the "Increased Death Rate in People of Middle Life." These statistics present some food for thought.

In 1870 in Chicago the expectation of life at the time of birth was thirteen years, and in 1910 it was thirty-five years, an addition of twenty-two years or 170 per cent increase to the average person. The following table shows the decrease and increase of mortality by age periods since 1880 in the registration area:

Age	Per Cent
Under 20, decrease.....	17
20 to 30, decrease.....	11.8
30 to 40, decrease.....	2.3
40 to 50, increase.....	13.2
50 to 60, increase.....	29.2
Over 60, increase.....	26.4

The United States mortality statistics show that the general death rate in the United States registration area declined 24 per cent from 1880 to 1909; that in people below forty years of age the decrease was 17.2 per cent and that in people above forty years of age it increased 26.8 per cent. Further analysis shows that the decline in the general death rate occurred chiefly in the diseases of children and early adult life and came wholly from diseases of the communicable class.—Illinois Medical Journal, June, 1914.

TAXING OF PHYSICIANS IN FLORIDA

We are constantly finding evidence to prove that the practice of medicine is the most attractive of all callings. The wonder is that every able bodied man and woman is not seeking entrance to its ranks. In Florida we find the best of all. This certainly is the ideal place for chiropractors, seeing that—according to Palmer,—they are seeking to do good as did our Lord Jesus Christ.

In most of the towns and counties of Florida no provision is made for medical attention for the indigent poor and this burden falls on the physicians, for some one must do it until the public awakens to its responsibilities and assumes as it ought this community burden. Before the physician can have the privilege of doing this charity work for his community he must at present pay the state \$10, the county \$5 and the town \$5, together with two 25 cent fees for issuance, a total of \$20.50. For this handsome contribution to the state, county and town revenues the physician gets two rather plain documents permitting him to practice his profession for one year and incidentally, render free service to the poor. These licenses might be said to be an

evidence of the gratitude of the people to us for serving the poor without pay, thus saving the precious tax money to spend on other things."

THE ISOLATION OF CERTAIN CRYSTAL-LINE BODIES FROM THE THYROID GLAND

Dr. Edward C. Kendall of the Chemical Laboratory of the Mayo Clinic, has isolated a crystal-line body from the thyroid gland, which contains the active principle of thyroïdine. This will place within the reach of the profession the active principle in convenient and concentrated form, which has all of the physiological and therapeutic effects that have been recognized as belonging to the thyroid gland.

For the purpose of protecting the profession and the securing of a reliable therapeutic agent, the patent has been secured under the name of the American Medical Association. This is not for the purpose of giving the Mayo Clinic any proprietary rights in this substance, but for the purpose of protecting the profession against fraud which might easily come from the production if it were to be left to a commercial pharmaceutical establishment.

It is with profound humiliation that we read from the Journal of the Arkansas Medical Society the following note:

The newspapers of February 27th told of the illness of Mrs. Harriet Carroll, seventy-two years old, penniless, under treatment in the charity ward of a Washington hospital. To probably 999 out of every 1,000 readers that conveys nothing but the mere every-day fact that a poor old woman, friendless and alone, is ill in a hospital.

But who is Mrs. Harriet Carroll, and why is she penniless, alone and friendless? It is because her son gave his life that thousands of his fellow-men might live, and it is written "Greater love hath no man than this, that a man lay down his life for his friends." The late Dr. James Carroll did even more than this, for he laid down his life that thousands unknown to him might live. It was he who in the experiments to prove definitely the means of propagating yellow fever, submitted to the bite of infected mosquitoes and died a martyr to science. And his reward is that his aged mother, sick and broken, must seek asylum in a charity hospital!

It will be remembered that Major Read, Lieutenant Lazar and Lieutenant Carroll practically offered up their lives to the public in working out the nature and cause of yellow fever in Havana. Dr. Lazar died of the disease in the midst of his investigations. Dr. Read and Dr. Carroll, broken in health, survived but a short

time after the completion of their work. Dr. Carroll had a wife and several children who were left almost destitute. The little home was about to be sold to satisfy a mortgage and the family turned into the streets when at one of the Atlantic City meetings of the A. M. A. about \$1,500 was raised to release the mortgage. Some time later congress allowed a small pension which helped to relieve Dr. Carroll's family from want. Suppose Dr. Carroll had invented a rifle ball which would kill two men instead of one as now, or had devised a method of unloading two ships in the time required to unload one or a drum that would make twice the noise of any on the market; is it probable his old mother would have been left to be cared for in a ward of a charity hospital? This then is the way to develop patriotism; this and the planting of flags on school houses.

LIABILITY FOR SUBSTITUTE—ABANDONMENT OF CASE

In an action against a physician for injuries to the plaintiff's wife while confined in childbirth resulting from the defendant's furnishing an incompetent substitute, it was held that a physician is responsible for an injury done to a patient through the want of proper skill and care in his apprentice or agent. Likewise partners in the practice of medicine are all liable for an injury resulting from the negligence, either of omission or commission, of any one of the partners within the scope of their partnership business. The theory upon which this holding is based is that partners in the practice of medicine are sureties for the faithful performance of their engagements by each of them.

It is also an established rule that a physician, responding to the call of a patient, thereby becomes engaged, in the absence of a special agreement, to attend to the case so long as it requires attention, unless he gives notice to the contrary or is discharged by the patient. He impliedly contracts that he possesses, and he is required to exercise that degree of knowledge, skill and care which physicians practicing in similar localities ordinarily possess, but he does not impliedly warrant a cure, and can be held as a guarantor of success only in virtue of an express agreement. If he makes provision for the attendance of a competent physician upon his patient, he may leave temporarily, but for the unwarranted abandonment of a case at a critical period resulting in increased pain and suffering on the part of the patient he will be held liable in damages.

In the present case it was held that the question whether the fact that the defendant expected to attend court on that day and had other pressing professional engagements to which he could not give his attention and at the same time attend the

plaintiff's wife furnished a sufficient excuse for his failure to attend in person when called by the plaintiff was one for the jury.—*Lee vs. Moore*, Texas Court of Civil Appeals, 162 S. W. 437.—*Journal of the Medical Society of New Jersey.*

A post-graduate school of neurology has been organized by the neurological staff of the Philadelphia General Hospital. Instruction will be arranged in four periods of six weeks each, one, two, three or four of which can be taken by the students. The first course of six weeks commenced on Monday, December 7, 1914, and will continue until the end of January. The second and third courses will be in February, March, April and May. Special short courses of two or three weeks each can be arranged for the months of June, July, August and September. The instruction will be given by the members of the neurological staff of the Philadelphia General Hospital and their assistants, and such well known names as Dr. Charles K. Mills, Dr. Charles W. Burr, Dr. William G. Spiller, and others, are among those mentioned. The fees for each period covering all branches taught will be twenty-five dollars. Further information may be obtained from Dr. C. K. Mills, 1909 Chestnut st., Philadelphia.

For members of committee, fifty-six medical journals, the American commission for relief in Belgium and others.

Report of the treasurer of the committee of American physicians for the aid of the Belgian profession. For the week ending May 1, 1915.

Contributions

Dr. N. D. Murphy, Bangor, Mich.....	\$ 25.00
Col. W. H. Arthur, M. C., U. S. A., San Francisco, Cal.	10.00
Dr. Augustus A. Eshner, Philadelphia, Pa..	10.00
Dr. S. W. Goddard, Brockton, Mass.....	10.00
Dr. Albert M. Judd, Brooklyn, N. Y.....	5.00
Dr. Calvin F. Barber, Brooklyn, N. Y.....	10.00
The Mount Vernon Medical Society, Mount Vernon, N. Y.....	10.00
Receipts for the week ending May 1st....	\$ 80.00
Previously reported receipts.....	6,505.50
Total Receipts	\$6,585.50

Disbursements

Disbursements for the week ending May 1st, thirty-five standard boxes of food at \$2.30	80.50
Previously reported disbursements—	
1,625 standard boxes of food at \$2.20....	\$3,575.00
1,274 standard boxes of food at \$2.30....	2,930.20
Total Disbursements	\$6,585.70
Deficit	\$.20

F. F. Simpson, M. D., Treas.,
7048 Jenkins Arcade Bldg., Pittsburgh, Pa.

Dr. J. Riddle Goffe, of New York, says that in a letter just received from Dr. Jacobs, of Brussels, he summarizes the situation of our Belgian colleagues as follows:

1. Many doctors were killed, consequently the widows and orphans deprived of everthing, are without a home, without means, with nothing left.
2. All country doctors or those living in small towns are ruined by loss of every possession they had.
3. Doctors in large cities are ruined by commanding, war levies, etc.
4. The largest part of Belgium, population has become a prey of infectious diseases, epidemics, with a large infant mortality, etc.
5. Ruined civilian populations cannot pay for medical advice, consequently several physicians are compelled to work for nothing, others are obliged to undertake any labor for gain as a means of livelihood with results that are terrible for the population.

The opportunity is here created for the medical profession of the world to show the brotherly feeling which exists among them, and they can do this by helping us with the necessary funds.

Mr. Harry E. V. Britain, founder of the Society of Pilgrims and member of the Belgian finance committee, in London, landed in New York last week. He says:

"Consider for a moment what your Belgian commission had done. With no hope of reward save the inarticulate thanks of a nation half-throttled and daily in danger of starvation, your countrymen in England and Belgium backed, of course, by yourselves have tackled a job bigger than that which confronts the commissariat of any army in Europe.

"If for no other reason, for this alone the neutrality of the United States should be welcomed by every one of my fellow countrymen. Through your neutrality you have been able to accomplish the greatest feat of the war. Mr. Hoover's commission has become the one power—the really one neutral power—respected by all nations. It was organized by Americans, it is run by Americans, and if any one ever says that the neutrality of the United States in the greatest of all wars was merely passive circumspection, history will haul him up as a liar, and fling in his face an achievement that General Grant or General Lee would have admitted to be more to their credit than any of the many victories they gained by strategic genius.

"Your flag has safeguarded more relief than the philanthropy of the whole world ever dreamed that it would be asked to supply. Under the Stars and Stripes a distressed civilian army, greater than the combined militant armies of France and Germany, is being kept alive. Impelled by humanity and guided by an efficiency that is the envy of every European government, you have pierced the lines of all armies, broken all blockades, and gained the first really decisive victory of the war."

Surgeon General Gorgas asked to take charge of campaign against typhus fever in Servia. The Rockefeller Foundation has invited Surgeon General William C. Gorgas, of the United States army, to become a permanent member of its staff in the capacity of general adviser in matters relating to public sanitation and the control of epidemics. If General Gorgas decides to accept the offer, he will be sent to Servia to direct the work of controlling the epidemic of typhus fever which is raging in Servia and which it is feared may spread to other countries of Europe, and possibly be brought to the United States. The sanitary commission of the American Red Cross has been sent to Servia in charge of Dr. Richard P. Strong, of the Harvard Medical School. The Rockefeller Foundation is co-operating with the American Red Cross in the support of this expedition, and if General Gorgas should accept the foundation's offer he will doubtless be largely influential in determining the nature and extent of its participation in the work—New York Medical Journal.

A CHIROPRACTICAL JOKE

In dealing with the bony heretics in our midst it is difficult to find the golden mean. The shortest way savours of persecution to a not uncommon type of mind. Hale him—osteopath, chiropractic, or Eddyot—before the judge, if the legal definition of "the practice of medicine" permits it, and the yellow-minded reporter is there to hail him before the public as a martyr to the greed of corporate interests. On the other hand, the present policy of laissez-aller is not free from danger to the laity and, in many districts, harm to the profession. Incidentally, it may be questioned whether the usual formula, "give him enough rope and he will hang himself," can properly be applied to one who is clever enough to make a living by replacing and keeping in place undislocated vertebrae. When, therefore, this sorry sect a few months ago proposed to establish a teaching school of "chiropractics" in Toronto, the Ontario College of Physicians did well to protest vigorously to the government, and it is to be hoped for the credit of the province that official sanction at least will be withheld.

Recently in a wide-awake little town in Ontario an ingenious attempt was made to deal with the local problem. If it failed of the desired effect, the unforeseen factor was one that has often caused the best-laid schemes to gang aley. One of the leading practitioners of the town was called in to see a young woman, whom he found to be seriously ill with diphtheria. He prepared to give antitoxin, but the patient and her people, with the obstinacy of fanaticism, would have none of it. Dr. Merrythought, having exhausted his powers of persuasion, if not of profanity, washed his hands of the case and departed to report it to the medical health officer, his friend Dr. Sly. Thereupon the parents sent

for Quackanbosh, a particularly offensive "chiropractor" who had recently settled in the town. His first visit occupied only the time necessary to replace the cervical vertebrae and unobstruct the flow of vital spirits along the nerve roots. His second visit was more protracted, lasting without interruption for a period of some three weeks. Our friends had hit upon this visit as an opportune moment for placarding the house and establishing a rigid quarantine!

So far the laurels rested with the profession; but Quackanbosh has some claim to the last laugh. It was indeed to be expected that the patient would recover. Such cases do; and for much the same reason that Montreal, having drunk more than its usual allowance of sewage lately, has fortunately been more than usually free of typhoid. But that was not all. Quackanbosh did not waste his leisure in repining. As the apothecary poet puts it, "They could not in the self-same mansion dwell without some stir of heart." He emerged from his pleasant captivity betrothed to the young lady, and is now more firmly rooted in the town, without further let and hindrance on the part of Drs. Merrythought and Sly, who were among the first to give their services to the Empire. They are now at the front, where one may hope that even as noncombatants their strategic faculties will find scope, and be attended with a less dubious success.

BOOK REVIEWS

NERVOUS AND MENTAL DISEASES

By Archibald Church, M. D., Professor of Nervous and Mental Diseases in Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., Formerly Professor of Psychiatry, Columbia University. Eighth Edition, Revised. Octavo Volume of 940 Pages. With 350 Illustrations. Philadelphia and London. W. B. Saunders Company, 1914. Cloth \$5.00 Net; Half Morocco, \$6.50.

The seventh edition of the Church and Peterson's book was reviewed in this Journal about three years ago and now the eighth edition comes to us for consideration. The reason for the rapid exhaustion of the several editions is probably to be found in the first two lines of the general preface. "This book has been written for medical students and general practitioners. It makes no claim to be other than a carefully prepared text-book."

The great body of medical men are general practitioners who must know something about nervous diseases. These diseases are the most difficult to understand and require the best trained logical minds to advance very far into the many puzzling conditions. The authors of this book appear to have the rare ability to interpret the difficult language of neurology and psychiatry into terms understandable to the general practitioner of medicine and

surgery. Some changes have been made in the section devoted to nervous diseases to meet the increased knowledge in relation to certain things.

The subject of vertigo and its labyrinthine relations has received fuller consideration. Syphilis of the nervous system, the relation of glands of internal secretion to nervous disorders, infantile paralysis have been in considerable part rewritten and elaborated. The new investigations of the spinal fluid in relation to diseases of the spinal cord and brain has been introduced. The new edition of Church and Peterson still holds the first place as a guide to students and general practitioners.

PROGRESSIVE MEDICINE

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, By Hobart Amory Hare, M. D. and Leighton F. Appleman, M. D. Published by Lea and Febiger, Philadelphia and New York. Price \$6.00 Per Annum.

Six authors have contributed to the March number of Volume 16. Professor Charles H. Frazer of the University of Pennsylvania has written a digest of the surgery of the head and neck and first we have the cerebrospinal fluid and its relation to intra cranial lesions. This subject, on account of the limitations of treatment of lesions connected with excess of cerebrospinal fluid has had only an academic interest to general surgeons. The origin of the cerebrospinal fluid is believed to be the product of the cubical cells of the choroid plexus, hence investigations have been directed to the discovery of means to inhibit the secretory activity without success, except that Dr. Frazer's observations have been to the effect that thyroid extract tends to exercise a specific inhibitory action on the choroid gland. Dr. Frazer reserves for later consideration the clinical application of this principle of treatment. The cause appears to be a disturbance in the balance between formation and absorption of cerebrospinal fluid: (1) Hypersecretion. (2) Obstruction to the passage of the fluid from the ventricles to the subarachnoid space where it is absorbed. (3) Defective or delayed absorption. Symptomatology does not give any light on the subject. The obstructive type may be determined by injection of phenosulphonethalien into the ventricles and the appearance or non-appearance of the fluid by lumbar puncture. The technic of corpus callosum puncture is given in detail.

In relation to tumors of the brain, operative treatment should always be considered, although Ferrier gives only ten per cent of the cases as operative; Bruns places it at 30 per cent, but holds that only 3 or 4 per cent are restored to health. A full discussion of this subject follows and should be carefully read by any one interested in the surgery of tumors of the brain.

Referring to the different types of meningitis Frazer has not found that drainage of the sub-

arachnoid space had much to offer, and at the present our reliance must be on lumbar puncture.

In relation to hyperfunction or hypofunction of the hypophysis, the analogy between the pituitary body and the thyroid gland seems clear, but as in the thyroid the pathological processes sometimes pass from a hyperplasia into a hypoplasia, producing a confusing symptom complex that leaves much to be determined. An exhaustive review of what is known of the hypophysis is presented.

Tubercular glands of the neck: excisions and eviscerations are advised as a saving of time. Operative treatment seems to be the favorite practice of American surgeons, while on the other hand Calot, in a recent work, condemns this practice. The questions involved in this discussion are too complicated for consideration in this review. Rather full discussions are given diseases of the breast and of exopthalmic goitre.

Surgery of the thorax is reviewed by Professor George P. Muller. Lung abscess, gangrene and empyema occupy considerable space, and in the discussion will be found the latest that has been said, especially in relation to empyema. No claim is made for new methods of treatment.

The section relating to infectious diseases (including acute rheumatism, croupous pneumonia and influenza) is prepared by Dr. John Ruhrah, covers a wide range of subjects and is very exhaustive. It is interesting to note the importance given by internists to infections of the throat.

Diseases of children by Dr. Floyd M. Crandall: a series of observations on blood pressure in children for the purpose of establishing a standard for the use of the pediatrician are recorded, but no definite conclusions have been reached. An interesting study upon causes of heart diseases, based on a series of 1,350 children, shows a close relation to joint diseases, and to infections from the nasopharynx. A review of acidosis in infancy based on an extended article by Marshall of Ann Arbor, is of very decided interest.

Rhinology and laryngology by Dr. George B. Wood, and Otology by Dr. Truman L. Saunders, completes the March number of progressive medicine—a work of great interest to one who desires a brief digest of current literature or who is writing society papers.

PATHOLOGICAL TECHNIQUE

The New (6th) Edition

Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School; and J. H. Wright, M. D., Pathologist to the Massachusetts General Hospital. Sixth Edition, Revised and Enlarged. Octavo of 536 Pages With 174 Illustrations. Philadelphia and London. W. B. Saunders Company, 1915. Cloth \$3.00.

This is a new revised edition of a book which for many years has been the most important guide and reference book in the pathological laboratory. The authors are so well known as being among the leaders in the field of pathology as to bespeak the reliability of the work.

The first portion of the book is devoted to post-mortem examinations; then follow chapters on bacteriological examinations; preparation of tissue specimens for microscopic examination; animal parasites and finally a chapter on clinical pathology in which the technique of the Wassermann test is well described.

This book is not designed and cannot take the place of the manuals on clinical laboratory work. It devotes, for instance, but one-half page to examinations of the urine. For the general practitioner it is not as indispensable as the manuals on clinical laboratory diagnosis, but the person who makes a specialty of laboratory work, cannot well get along without it.

CLINICAL DIAGNOSIS

A Manual of Laboratory Methods

By James Campbell Todd, M. D., Professor of Pathology, University of Colorado. Third Edition, Revised and Enlarged. Twelve mo. of 585 Pages With 176 Text Illustrations and 113 Colored Plates. Philadelphia and London. W. B. Saunders Company, 1914. Cloth \$2.50 Net.

This is a very good, concise and well arranged guide to such laboratory work as is of most importance to the practicing physician. In recent years quite a number of works on clinical laboratory diagnosis have been issued. Some of the better ones are found to be so voluminous as to discourage many physicians in attempting to do as much laboratory work as should be done in their own office laboratory. This work being shorter and more concise, remedies this defect in part. But even this work is inclined to give too many methods. Thus for the estimation of hemoglobin, six different methods are given, whereas two or at least three would seem to be sufficient. The work is well illustrated. The methods given are for the most part, easily carried out. Especial attention appears to have been paid to having the work accurate and up-to-date. This work can well be recommended to physicians who do their own laboratory work and who do not desire to secure one of the larger works which devote more attention to explanatory details than is possible in a work of this size.

DIABETES MELLITUS

Diabetes Mellitus, Designed for the Use of Practitioners of Medicine. By Nellis B. Foster, M. D., Assistant Professor of Medicine, Cornell University, Associate Physician of the New York Hospital. J. B. Lip-

pincott Company, Philadelphia and London. Price—

This book of 240 pages is a critical presentation of the investigations of the physiological chemist for the use of clinicians. The great amount of clinical material which has been presented in recent years has often been used to support some partisan doctrine and the author has felt the necessity of a critical review of the subject for the purpose of a broader understanding of the true nature of diabetes. This book is more than it claims to be; it is a study of normal and abnormal metabolism with the resulting pathogenesis of acidosis and glycosuria. Nothing new will be found in this book, but a most interesting and attractive presentation of a most important subject. After many years of close observation among a higher class of industrial workers we have come to have very decided views as to the importance of a conservative study of disordered metabolisms in a highly trained and valuable class of workers who have extremely responsible duties. Doctor Foster's book appeals to us as suggestive and helpful.

GENERAL MEDICINE

Volume I, 1915. Practical Medicine Series, by Drs. Frank Billings and J. H. Salisbury, of Chicago. Price \$1.50. Year Book Publishers, 327 La Salle Street, Chicago.

This volume brings up to date the literature on general medicine for 1914. The literature is covered under infectious diseases, diseases of the lungs, of the heart, of the arteries, of the blood and blood making organs, of the ductless glands, of metabolism, and of the kidneys.

A REFERENCE BOOK ON THE FEDERAL NARCOTIC LAW

(Harrison Act.) For Physicians, Druggists, Dentists and Veterinarians, By Albert Dean Currier of the Chicago Bar, and Daniel R. Forbes, Late of United States Board of Food and Drug Inspection.

A very concise booklet, giving the law, its intent and spirit, its analysis, and synopsis of rulings, also a list of drugs included in its scope. Copies may be obtained for 25 cents from the secretary of the N. A. R. D., 122 South Michigan Avenue, Chicago.

NEW AND NON-OFFICIAL REMEDIES—1915

This edition comprises 426 pages, a great growth on its first appearance. It is a trustworthy guide to the physician desirous of keeping abreast of therapeutic advance, by informing him as to what remedies are of value, and also the relative values of the newer as compared to the older drugs. It contains also a full description of prohibitory medicines, from which the doctor may learn possibly what reliance to place on the specious arguments and statements of the manufacturer. Many such

articles are brought to the physician, with such plausible talk by the retail man, that unless forewarned by some such means as this volume, the tendency is to use the article.

Every article mentioned as a new and non-official remedy must have had its composition furnished to the council on pharmacy and chemistry for publication, and must live up to its description, both as to purity and identity. No unwarranted therapeutic claims are allowed under the rules of the council, so that the physician can rely on those drugs mentioned in this work. Paper bound copies of the book may be obtained on receipt of \$.50, cloth bound copies \$1.00.

A FOREIGN VIEW OF COMPETITIVE ATHLETICS

On various occasions The Journal of the American Medical Association has entered a protest against the widespread tendency in the United States toward the extension of competitive athletics in schools.

These contentions are shared by European authorities to whom the question of permitting students of various ages to engage in competitive sports has been submitted by the Prussian government. In order to discover undeveloped athletic "talent" among the students of the high schools and universities of the German Empire, in anticipation of their being trained for the projected Olympic games, competitive games were proposed under the auspices of athletic associations in many places. The participants were to be students without previous athletic training. The events were to include swimming matches, running and jumping contests, and numerous other exercises. Although it was assumed that such contests would increase appreciation of the importance of physical exercise, the intent of the plan was to discover promising candidates. The plan was submitted to the physiologist Rubner and the clinician Kraus, professors in the University of Berlin. In their report they contend that any system of athletics which finds its best expression in competition, and has as its chief end the development of athletic supremacy, fails to meet the real hygienic needs of youth and to serve for the proper perfection of the body. The excesses and the evils of athletics which have grown up in England and America, where this form of sport has received its greatest impetus, are brought home to the German committee. They are reminded that here the organization of competitive athletics is attended with an undue sacrifice of time at the expense of the intellectual pursuits. The contests degenerate into a public entertainment with all the drawbacks of the arena. The development of the body is carried out along lines of extreme specialization.

The conclusions of Rubner and Kraus are not only to be endorsed, but deserve widespread publication as sane judgments of competent observers.

Exercise is intended to benefit, not to injure the individual. Let no one construe such checks on competitive games as a movement against physical training and gymnastics. The latter should receive every encouragement that a rational system deserves; but the propaganda for a recognition of the value of bodily exercise carried out in any suitable form must be based on a system of health-promoting practices. Competition belongs to the specialist, who must insure himself against the consequences. He should not be allowed to set the standard for athletic sports.

THE HEN AS A POSSIBLE TYPHOID CARRIER

The problem of the carrier in various infectious diseases has long vexed the sanitarian who is bent on discovering every possible mode of transmission and every portal of entry for the germs. Human carriers of typhoid and diphtheria germs, themselves immune to attacks of the malady, are now watched for in nearly every community, and the danger which they represent as a latent source of infection is clearly recognized. Doubtless, says The Journal of the American Medical Association, many of these possibilities for spreading disease without the presence of detectable symptoms are still unrecognized. In typhoid, it has been shown that some of the lower animals may be made typhoid carriers; and attention has lately been directed to such animals as might be expected to become carriers by reason of their environment or habits. Mitchell and Bloomer of the bacteriologic laboratory of the University of Missouri have pointed out that the chicken is a domestic animal which might often come into contact with typhoid discharges. The mechanical transference of typhoid bacilli on the feet and bill of a chicken does, without question, occur. By various methods they have attempted to follow the germ. From the work of the Missouri bacteriologists it would seem that the hen is highly resistant to typhoid. It not only fails to take the disease, but apparently cannot be made a carrier except in a mechanical way.

FLAT FOOT

R. W. Lovett, Boston (Journal A. M. A., April 10, 1915), attacks what he calls the "superstition of flat foot." The term was used almost alone to describe static disorders of the feet some two decades ago. Later the terms "pronated foot" and "weak foot" and the more correct name, "foot strain," have come into more general use. Real flat foot exists, but the term should be restricted to feet which are really flat and touch the ground where the arch should be. Such feet are not always necessarily painful, and they are often very serviceable in spite of the deformity. These views were originally formulated, Lovett says, on the examination of some 800 nurses in a large general hospital, and the results

of the analysis of the first 500 were published in *American Medicine*, July 4, 1903. The later 300 cases confirmed the opinion there expressed. In the 800 nurses there was not a single case with evidence that the troubles complained of were due to any lowering of the arch, and the conclusion which was formulated was to the effect that the static troubles in the feet which would ordinarily be described as of the flat foot type could not be traced to any particular type of structure of foot; and pain and disability were due to muscular strain. In foot strain, it is probable that the ligaments also become irritated, and serve as a source of tenderness. Moreover, some degree of synovitis may arise from the tarsal joints, as for instance in the astragaloscaphoid joint, the under surface of which is frequently thick and tender in cases of foot strain. Investigation of the influence of environment and general condition showed that 64 per cent of the troubles developed in February, March, April and May, when the general condition was probably the poorest, and 60 per cent of all cases of trouble occurred in the first two or three months of the nurse's training. The onset was frequent after grip, tonsillitis, and acute illness of some sort or other, and more frequent during the menstrual periods than between. When general muscular power is weakened, without lessening the body weight, the muscular power should be considered as unfavorably influenced by the footwear, because the foot as a weight-bearing structure is an exceedingly complicated mechanism. "In the investigation of the weight-bearing area of the feet in nurses, there were three types of foot seen in the pressure areas on the glass: 1. A flat foot in which the forefoot made a broad pressure area which tapered back gradually to the round of the heel, but little indentation showing under the arch. 2. A broad oval area in front connected by an isthmus along the outer border of the foot with the circular area of the heel. This is the so-called 'normal' imprint of the foot figured in the text-books. 3. A form to be described as 'two islands,' in which there appeared in standing two areas not connected, one an oval in front for the forefoot and a circular one behind for the heel. This form is clear when the imprint of the foot is observed through the glass plate, but is not so clear in smoked or wet tracings." The shape and curve of the sole of the boot assume that all feet are alike, and have a rather low arch, which is often not so high as the real arch of the foot. While this does no harm in most cases, it is a bid for foot strain in persons defective in muscular vigor. The influence of the heel was not so clear. It was originally devised to keep the back part of the foot out of the mud, but has forgotten this function, and its height has been increased. In many cases this height is conservative, and when calf muscles are short, it is bad to lower it. We have to treat patients according to the existing fashions of shoes. Real flat foot, if painful, should be treated; otherwise it may be let alone. In cases

which are not flat foot, but which may be spoken of as foot strain, we should be especially on the lookout for an unduly high arch. Rest should be furnished to the overstrained muscles by supporting the foot, mostly at its inner side; and as it is impossible to get shoes always exactly fitted, it is well to attempt to remedy the defect by replacing the small foot stiffening by one of the proper curve. For temporary support, the strapping with adhesive plasters may be used. In shoes with stiff enough shank, properly cut pads may be used. Lovett finds metal plate supports, properly made, of value, and in his experience, the great majority of patients that use them sooner or later come to be able to do without them. Ill fitting ones do harm. He has never been convinced of the benefit of exercise for foot strain in the acute cases. The following is his summary of the paper: "Feet vary in shape as much as do our features; some are naturally flat, others have a moderate arch, and some a very high arch. Any foot may become painful from foot strain without any change in the height of the arch under unfavorable general conditions, overuse, ill health, etc. Boots are predisposing factor to foot strain, not only by cramping the foot, but especially by not supplying adequate support to the sole of the foot. For this reason persons with high arches are quite as liable to foot strain as persons with low arches, if not more so. When foot strain occurs, it is desirable to rest the tired structures by support, most often a metal plate. Exercise in acute cases and the use of a flexible shoe generally do harm rather than good. My final heresy consists in the belief that painful feet are more often helped by raising the heels than by lowering them."

EFFECTS OF THE HARRISON LAW

"When the Harrison law became effective, March 1, it was widely predicted that the result would be a besieging of hospitals by crazed drug addicts, a crime wave of national scope and a trail of suicide and death across the country. A month has passed, and while the results have not been as terrible as the early hysteria painted them, have not even approximated the glaring headline predictions of the yellow press, they have nevertheless," says *The Journal of the American Medical Association*, "been apparent to physicians and to others who come in daily contact with drug traffic. In the Philadelphia General Hospital—and this is true of practically every hospital in the country in which drug addictions are treated—the number of admissions has greatly increased. Without doubt the law has forced numerous habitues, who otherwise might have been satisfied to continue as such, to apply to physicians and institutions for treatment. Further, there is no doubt that the large majority of these unfortunates will be freed of their habit. The increased admissions to these hospitals do not represent an increase in drug addictions; they are simply an objec-

tive manifestation of the operation of the Harrison law." A communication, which The Journal publishes, from the Cook county coroner's office presents the opposite side of the picture. It points to the suicide who anticipates his suffering as his supply of drugs ceases; it indicates the ever-hopeful victims who seek surcease of pain in deadly nostrums, and it hints at the deaths from secondary causes in weakened and collapsed bodies. It should again be emphasized that these reports are not evidence of the existence of enormous numbers of drug habitues; rather they represent the toll of a new law and the throwing of light on a hidden evil.

THE PHYSICIAN AN "EASY MARK"

"Regularly there drift into this office," says The Journal of the American Medical Association, "the sad complaints of physicians who have trusted their fellow men, not wisely but too well. At least every third or fourth issue carries the old familiar heading 'A Warning' and a detailed description of the latest species of the genus 'fraud.' The types of impostors are varied, at times, even amusing. A late specimen, leaping here and there over the country, offered to physicians for the small sum of three dollars a year's subscription to any of the best magazines and a set of the complete works of any of the most prolific authors. A moment of thought would have shown the willing victims that the material offered could not possibly be sold for ten times the sum. Another engaging young man packed a sample case with the latest models of medical apparatus, offered to accept orders, at half the usual price and allowed a special discount of 10 per cent for cash with the order. The latter saving appealed so greatly to the economical physician that the suave gentleman used up his order book before he left the town. Strange to relate, neither the syringes, hypodermics and thermometers nor the money advanced were ever seen again.

"Perhaps the physician who reads this sad commentary on the perspicacity of his fellow practitioners has somewhere stored away some pamphlets on 'New America and the Far East.' This proposition was—and no doubt is—offered to physicians as 'A Series of Scientific Lectures on Ethnology and Anthropology, Recommended by the American Medical Association.' The lectures are delivered weekly at the rate of 25 cents per lecture, and the genial individual who introduces them claims that he is interested in research and the proceeds are to aid him in his monumental work. In due time the 'lectures' begin to arrive at the rate of six or seven at a time. One must see these pamphlets to learn their true value—or rather lack of value. If the doctor refuses to accept them, and hesitatingly suggests that he would like to back out, the promoters try to compromise by offering something else, for example, cheap medical books, or old editions of new books.

"A recent scheme is a so-called medical index association. The authors of this peculiar swindle en-

gage offices, located in high-class medical office buildings, which are equipped with new furniture and a host of stenographers and solicitors. The offer is to send to subscribers, at the rate of five or ten dollars a year, a reprint of any article appearing in any scientific journal published in the United States or England, together with a complete monthly index of medical literature—an impossible proposition. After securing a good haul of subscriptions, the gentlemen quietly depart, leaving stenographers and solicitors jobless and penniless and the subscribing physicians innocently waiting for the fruits of their investments—which never come.

"It is hardly necessary to mention the various stock-jobbing propositions which are offered to physicians as too willing victims. Putting aside the mention of worthless mining and agricultural stocks, there is the more vicious type which makes the physician a partner to a scheme for manufacturing worthless proprietary medicines and patent health foods. No physician can ethically connect himself with such schemes; from the business standpoint they are never profitable investments. We repeat—Never.

"Is the doctor really an 'easy mark?' He is not. The doctor is no 'easier' than the preacher or—let us whisper it—even the lawyer. The professional man is not in business; he is not a 'trader;' he cannot judge when a bargain is truly a bargain. Here lies the whole trouble; he is not suspicious—not on his guard. His attitude is one of sympathy with, not suspicion of, his fellow man."

During December the following articles have been accepted by the council on pharmacy and chemistry for inclusion with new and non-official remedies:

Merck and Co.:

Arbutin, Merck

Benzene, Merck H. P., crystallizable

Digitoxin, Merck

Silver Citrate

Silver Lactate

E. R. Squibb and Sons:

Pyocyanus Vaccine: boxes of 2 ampules containing respectively 100 and 500 million killed bacilli.

NEW AND NON-OFFICIAL REMEDIES

Since publication of new and non-official remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the council on pharmacy and chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Pasteur Antirabic Vaccine.—The virus is prepared according to the method of the hygienic laboratory, Washington, D. C. A dose is sent by mail each day. Twenty-one to twenty-five doses constitute a treatment. Laboratory of W. T. McDougall, Kansas City, Kansas.

Solution Pituitary Extract.—A solution of a putrified extract of the posterior lobe of the pituitary gland of the ox. It is assayed so that 1 c.c. represents 0.2 Gm. fresh gland. It is used by hypodermic or intramuscular injection mainly to stimulate the uterus contraction in labor. It is supplied in the form of ampules containing 1 c.c. solution pituitary extract. The H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Dec. 5, 1914, p. 2043).

Radium Bromide.—The market supply is a mixture of radium bromide and barium bromide and is sold on the basis of its radium content. It is sold for use in applicators, inhalatoriums and injection solutions. Radium bromide is marketed as:

Radium Bromide, Radium Company of America.—All deliveries are made subject to the test of the United States Bureau of Standards or any reputable expert designated by the purchaser. The Radium Company of America, Sellersville, Pa.

Radium Bromide, Standard Chemical Co.—Sold by the Radium Chemical Co., Pittsburg, Pa. (Jour. A. M. A., Dec. 26, 1914, p. 2289).

Radium Carbonate.—The market supply is usually a mixture of radium carbonate and barium carbonate and is sold on the basis of its radium content. It is sold for use in applicators. Radium carbonate is marked as:

Radium Carbonate, Standard Chemical Co.—Sold by the Radium Chemical Co., Pittsburg, Pa. (Jour. A. M. A., Dec. 26, 1914, p. 2289).

Arbutin, Merck.—This brand of arbutin has been accepted for inclusion with new and non-official remedies. Merck and Co., New York.

Radium Chloride, Radium Co. of America.—This form of radium chloride has been accepted for inclusion with new and non-official remedies. Radium Co. of America, Sellersville, Pa.

Radium Sulphate, Radium Co. of America.—This form of radium sulphate has been accepted for inclusion with new and non-official remedies. Radium Co. of America, Sellersville, Pa. (Jour. A. M. A., Dec. 26, 1914, p. 2290).

Cupric Applicators (Copper Sulphate 20-25 per cent).—Wooden sticks 6½ inches long tipped with a mixture of copper sulphate, alum and potassium nitrate, containing 20 to 25 per cent copper sulphate. Antiseptic Supply Co., New York (Jour. A. M. A., Dec. 26, 1914, p. 2290).

PROPAGANDA AND REFORM

Alborum.—Alborum is sold by the Whitehouse Chemical Co., Lynchburg, Va. and is stated to contain boric acid, alum, phenol and oil of peppermint, the amounts not being declared. This preparation lacks originality and is unscientific. Its exploitation being held contrary to the best interests of the public and the profession, alborum was refused recognition by the council on pharmacy and chemistry (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Betul-ol.—Betul-ol is a methyl salicylate preparation advertised by E. Fougere and Co., New York

to physicians and, indirectly to the public, as an external analgesic and antirheumatic. It was refused recognition by the council on pharmacy and chemistry because the statements regarding its composition are vague, misleading and incorrect, because unwarranted therapeutic claims are made for it, because the recommendations are likely to lead the public to the self-treatment of rheumatism, with serious consequences (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Cystogen, Cystogen Aperient and Cystogen-Lithia.—Cystogen is the therapeutically suggestive name applied to hexamethylenamin by the Cystogen Chemical Company, St. Louis, Mo. By means of extravagant claims, unwarranted assertions and pseudo-scientific arguments the Cystogen Chemical Company advises the use of cystogen aperient or cystogen-lithia or all three in a well nigh endless number of diseases. The promoters take good care that every cystogen prescription is likely to spread the cystogen gospel among the people. In announcing the rejection of these products the council on pharmacy and chemistry calls attention to the conservative discussion of hexamethylenamin which appears in its publication "Useful Drugs" (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Cysto-Sedative.—Cysto-Sedative (Strong, Cobb and Co., Cleveland, Ohio) is said to contain *thuja occidentalis*, *pichisaw palmetto* berries, *triticum repens* and *hyoscyamus*, cysto-sedative was refused recognition by the council on pharmacy and chemistry because unwarranted and preposterous claims were made in regard to its preparation and because unwarranted therapeutic claims were made for this unscientific mixture (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Ergoapiol.—Ergoapiol (Martin H. Smith Co., New York) is a mixture put up in capsules, each of which is said to contain apiol (special M. H. S.) 5 gr., ergotin 1 gr., oil savin ½ gr. aloin 1/8 gr. Examination indicated that each capsule did not contain 5 gr. apiol but an oleoresin of parsley seed. The recommendations in the advertising matter invite its indiscriminate use. The council on pharmacy and chemistry refused to recognize this unscientific mixture of ingredients which has widely differing therapeutic effects (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Apergols.—Apergols, put out by H. K. Wampole Co., Inc., is apparently an inversion of the name ergoapiol and the preparation appears to have essentially the same formula. In general the claims made for apergols are the same as those made for ergoapiol. The council refused admission to apergols because they are advertised indirectly to the public, because of unwarranted therapeutic claims, because of the non-descriptive name and because the product is unscientific (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Gastrogen Tablets.—These tablets, recommended by the Bristol-Myers Co., New York to be used in connection with its other nostrum, *sal hepatica*,

are said to contain pepsin, calcium carbonate, calcium phosphate and "aromatics." As patients who need an antacid do not need pepsin and vice versa the preparation is unscientific and the therapeutic claims made for it unwarranted. Gastrogen tablets were refused recognition by the council on pharmacy and chemistry (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Iodalia.—Iodalia (Geo. J. Wallau, Inc.) is claimed to be a valuable substitute for iodides. Examination in the A. M. A. chemical laboratory indicated that when administered it would act like ordinary iodides and that to obtain the equivalent of 20 gr. potassium iodide it would be necessary to give the contents of a one dollar bottle of iodalia. Particularly reprehensible among the many unwarranted claims made is one which suggests to the public that iodalia will protect against infectious diseases. The council voted that iodalia be refused recognition (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Iodotone.—Eimer and Amend, who market iodotone, state that it is a glycerin solution of hydrogen iodide, containing 1 gr. iodine to each fluidounce. While iodotone must act like ordinary iodides and while nearly one ounce of glycerin must be swallowed to obtain the equivalent of 10 gr. potassium iodide, the unwarranted claims are made that iodotone is superior to iodides. Because of misleading claims and because the name iodotone is likely to suggest its use as a general tonic, iodotone was refused recognition by the council on pharmacy and chemistry (Jour. A. M. A., Dec. 12, 1914, p. 2149).

Nourry Wine.—This wine, sold by E. Fougere and Co., is said to contain 12 per cent alcohol and 1½ gr. iodine to the fluidounce in combination with tannin. Examination in the A. M. A. chemical laboratory showed that its action would be that of ordinary iodine and that the non-production of iodism is due to the small amount of iodine it contains. Claims are made which are prone to lead to its use both by the profession and the public in conditions in which effective medication is called for. The council on pharmacy and chemistry refused recognition to Nourry wine (Jour. A. M. A., Dec. 12, 1914, p. 2150).

Warner's Safe Remedy.—"Warner's Safe Remedy for the kidneys and liver and Bright's disease" is reported by the A. M. A. chemical laboratory to contain alcohol, by volume, 14.40 per cent, glycerin, by weight, 7.72 per cent, potassium nitrate 1.75 per cent and vegetable extractives. This preparation consists essentially of alcohol and potassium nitrate. Alcohol is contraindicated in inflammatory diseases of the kidneys and potassium nitrate is a kidney irritant. Sufferers from kidney diseases who take Warner's safe remedy will shorten their lives (Jour. A. M. A., Dec. 19, 1914, p. 2246).

Cypridol Capsules.—Cypridol capsules, sold by E. Fougere and Co., New York, are stated to contain mercuric iodine dissolved in oil. The council on pharmacy and chemistry refused recognition to cypridol capsules because they were sold under un-

warranted therapeutic claims and because they were marketed in a way to appeal to the public. If the capsules are once prescribed the directions on the bottle and the full instructions for the treatment of syphilis which accompanies the bottle is likely to lead the patient to attempt to treat his malady on his own accord and thus probably forfeit his chances of a cure. Physicians who want to use a solution of mercuric iodine in oil, should have their pharmacist prepare it for them (Jour. A. M. A., Dec. 19, 1914, p. 2247).

Intestinal Antiseptic W-A.—The Abbott Alkaloidal Co., advertises intestinal antiseptic W-A as "... a scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. ¼ and aromatics." The council on pharmacy and chemistry refused recognition to this proprietary because the formula does not indicate the proportionate amounts of the several sulphocarbolates, because the name is therapeutically suggestive and an invitation for the use of the preparation by the public and because exaggerated therapeutic claims are made for it. The claims which are made are most extreme; they contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. It does not appear that the claims have been substantiated by proper evidence (Jour. A. M. A., Dec. 19, 1914, p. 2247).

Keller's Tuberculin Test Plate.—This appears to be an attempt to exploit the Moro tuberculin ointment. The test does not discriminate between active and latent tuberculosis. As most adult persons have experienced tubercular infection at some time in life, a large majority of persons will respond positively to the test (Jour. A. M. A., Dec. 19, 1914, p. 2250).

TUBERCULOSIS "REMEDIES" THAT ARE WORTHLESS

After investigating under the Food and Drugs Act, a large number of preparations advertised as consumption cures, the Department of Agriculture has not been able to discover any that can in any sense be regarded as "cures" for tuberculosis. Some contain drugs that may at times afford some temporary relief from the distressing symptoms of the disease, but this is all. Since the passage of federal legislation prohibiting the shipment in interstate commerce of medicinal preparations for which false and fraudulent claims are made, there has been a marked tendency to label these preparations "remedies" instead of "cures" or "infallible cures" as they used to be called. In many cases, however, they can not even be regarded as remedies.

A "cherry balsam," for example, for the "cure" of "consumption" and "hemorrhage of the lungs," which it was represented would "strike at the very root of the disease" was found on analysis to be nothing but a solution in water and alcohol of opium, sugar, ben-

zaldehyde, inorganic salts and coloring matter. It contained no cherry bark extract or balsam.

A more elaborate "cure" consisted of five different preparations which the credulous patient was to take separately. These were first, the medicine proper, the essential ingredients of which were found to be morphine, cinnamic acid and arsenic—not a very safe mixture to take habitually; second, a tonic which was supposed to contain iron but did not; third, a "cough mixture, made up of alcohol, chloroform, and codenic; fourth, a mixture which contained some quinine, and a solution of water and alcohol; and fifth, coedine tablets. Even the strongest constitution could hardly stand a prolonged course of such a treatment.

In the marketing of such preparations considerable ingenuity is frequently shown. One of the main objects is to persuade the patient that he is receiving, at a comparatively low price, the individual attention of a trained specialist. For this purpose, symptom blanks are employed. These contain a number of questions about the patient's symptoms, the number varying from a dozen or so to as many as 70 or 80. The patient is led to believe that the information which he furnishes in reply to these questions, will be carefully considered before any medicine is prescribed for him, though every physician knows that an accurate diagnosis cannot possibly be made in this way. As a matter of fact none is attempted and the degree of attention which these individual reports receive can be measured by the fact that cases have come under the observation of the department in which mail order concerns doing a business of this kind have received as many as 4,000 letters a day.

After the patient has submitted his "diagnosis report" he is urged to purchase a supply of the medicine. If he does so, he is then urged to purchase more. If he states that he has experienced no beneficial effects he is told that he has not taken enough, and this process is likely to continue until the limits of his credulity have been reached. If, on the other hand, he decides at the beginning not to purchase the medicine it is likely to be offered to him at successively lower prices until he is at last induced to believe that he cannot afford to ignore such a bargain. This is carried to such an extent that a "treatment," the original price of which is \$25, may be offered at the end of six months for \$2.50.

As a matter of fact the successful treatment of tuberculosis requires much more than the mere giving of medicine and, moreover, what will help one case will not necessarily help another. Claims that are absolutely unwarranted are no longer permitted on the labels of medicines shipped in interstate commerce, but the wording may be such as to convey a misleading impression without the use of absolute statements. Thus these preparations continue to find a sale despite the fact that a little trouble on the part of the prospective purchaser will reveal their worthlessness.

THE BAKING POWDER PROBLEM

For a number of years there has been much discussion with regard to the effects of baking powders on the health. While minor objections have been urged against all baking powders, the principal charge of unwholesomeness has been made against baking powders containing alum. This objection is based primarily on the injurious effects of large quantities of aluminum salts. To this objection the answer has been made that the process of decomposition which liberates the leavening gas when alum baking powder is used, produces an oxid of aluminum which is insoluble, and hence not injurious. For the facts in this matter to be fully understood, it must be remembered that the so-called alum now used in baking powder is not the alum used in medicine, being a sodium alum (sodium aluminum sulphate) instead of the official potassium salt. This point is held by some to be important in view of the effects of potassium salts on the system. Cream of tartar is a potassium salt, being potassium acid tartrate.

In the discussion of the baking powder question, it must be remembered that the practical application of the facts concerns only small amounts of these salts and contemplates an occasional and not a constant use. Few people habitually consume breads made from baking powder, hence the amount of potassium introduced into the system by baking powder is unlikely to be of serious moment as regards health. Potassium salts are frequently taken as constituents of vegetable food, and yet there is no evidence that they disturb metabolism in any way. The question whether alum used in this way is injurious has been settled by the investigations of the referee board of scientific experts appointed by Ex-President Roosevelt, and its decision may be considered as coming from the court of highest authority. The investigation of this board covered a period of several years and was the most extensive single investigation ever conducted as to the healthfulness of alum baking powders. The distinguished character and personnel of the board itself lends additional weight to its findings. The board consisted of the following men:

Dr. Ira Remsen, president of Johns Hopkins University.

Dr. Russell H. Chittenden, professor of physiological chemistry, Yale University and director of the Sheffield Scientific School.

Dr. John H. Long, professor of chemistry in the Northwestern University Medical School.

Dr. Alonzo E. Taylor, professor of physiological chemistry, University of Pennsylvania.

Dr. Theobald Smith, professor of comparative pathology, Harvard University.

The board made the following findings:

"Aluminum compounds when used in the form of baking powders in foods have not been found to affect injuriously the nutritive value of such foods.

"Aluminum compounds when added to foods in the form of baking powders, in small quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminum which may be included in the ordinary consumption of aluminum baking powders furnishing up to 150 mg. (2.31 grains) of aluminum daily.

"Aluminum compounds when added to foods in the form of baking powders, in large quantities up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.

"Very large quantities of aluminum taken with foods in the form of baking powders usually provoke catharsis. This action of aluminum baking powders is due to the sodium sulphate which results from the reaction.

"The aluminum itself has not been found to exert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.

"When aluminum compounds are mixed or packed with a food the quality or strength of said food has not been found to be thereby reduced, lowered or injuriously affected."

In short, the board concludes that alum baking powders are no more harmful than any other baking powders, but that it is wise to be moderate in the use of foods that are leavened with baking powder.

In Dr. Taylor's conclusions, a different aspect of the baking powder question is brought out. It is shown that the product of all forms of baking powders is laxative, and the suggestion is made that the laxative effects of the continuous use of breads made with baking powder may be injurious. The objection applies to the cream of tartar baking powder which leaves a residue of Rochelle salts, to the phosphate baking powders which leave the phosphate of sodium and to the alum baking powders which also leave the sodium sulphate. Dr. Taylor says: "Apparently, therefore, at present at least, the use of baking powder is associated with the introduction into the alimentary tract of a certain amount of saline cathartic, the salt differing with the use of a particular type of baking powder." In connection with this objection, the amount of soluble residue left by the decomposition of the baking powder becomes of importance.

Here, again, the pertinence of the objection depends on the quantity likely to be eaten. In no case is it likely that a person would consume bread or biscuits enough to get an appreciable effect on the bowels from the laxative produced.

The criticisms with reference to the action of baking powders indicate a tendency to magnify quite incidental matters whenever they seem to favor the interest of one or other manufacturer. Thus the tartrate was at one time highly regarded because it was a product which was destroyed in the system, leaving a natural constituent of the

body, that is, potassium carbonate. More recently it has been discovered that the tartrates are only partially metabolized in the system, removing the supposed advantage of the tartrate powders. On the other hand, there is a disposition to emphasize experiments tending to show the powder of tartrates to affect the kidneys injuriously, although there is no evidence that such an injurious action can occur from the small quantity present in baking powders. While the objections to alum are unjustified, the physician will do well to inquire carefully into the probability of any alleged injury occurring from other forms of baking powder.—Journal of Indiana State Medical Association.

SOCIETY PROCEEDINGS

PROGRAM APPANOOSE COUNTY MEDICAL SOCIETY

Wednesday, May 26, 1915, 7:30 P. M., Society Assembly Room of Drake Public Free Library

Early Recognition and Management of Tuberculosis of the Bone...Dr. C. T. Slavin, Moravia

Early Recognition and Management of Arthritis,
Dr. E. E. Bamford, Centerville

Early Recognition and Management of Acute Osteomyelitis....Dr. W. A. Harris, Centerville

Clinical Case—Discussion

You are requested to fill out a slip of paper, signed, giving your opinion in full of the diagnosis of the cases reported in the clinical section and return them to secretary at the beginning of the meeting, closing the discussion of each case reported, the secretary will distribute slips giving the diagnosis as made in the Massachusetts General Hospital and the autopsy findings.

Any clinical cases you may wish to present to the Society will be appreciated.

CLINICAL DIAGNOSIS SECTION

Abbreviations Used in Summaries of Records

A2—aortic second sound.

P2—pulmonic second sound.

F. H.—family history.

P. H.—past history.

P. I.—present illness.

P. E.—physical examination.

Cta.—catamenia.

T.—temperature.

P.—pulse.

R.—respiration.

B. P.—blood pressure.

Hgb.—hemoglobin.

cm.—centimeters.

c.c.—cubic centimeters.

sp. gr.—specific gravity.

t.i.d.—three times a day.

Tb.—tuberculosis.

K. L.—bacillus diphtheria.

P. C.—postcibal.

The common chemical abbreviations as HCL.,

KI, etc. 5 / 10.5 * 6 Borders of cardiac dulness. The upright represents the mid-sternal line, the dot the nipple line. The figure at the left indicates the distance in centimeters to the right border. The figures at the right show the distance from mid-sternum to nipple line, to the left border of dulness.

Case Number 4.—A bell boy of twenty-one came to the hospital June 15th for the second time. First entry, May 2nd. Comes for observation. Systolic B. P. in the dispensary 80.

F. H.—Good.

P. H.—Negative.

Habits.—Good, except gonorrhea two years ago.

P. I.—Six months ago, while on a strenuous Western job, drinking "alkali water" and hurriedly eating poor food, he was suddenly nauseated one afternoon and vomited his previous meal. Had dizziness and headache, but no other symptoms. After a night's sleep he felt perfectly well. Has had a number of similar attacks at intervals of from a week to two months. Feels perfectly well between attacks. Plays baseball without dyspnea or discomfort until two weeks ago.

Five days ago the present attack began. It has been exactly like the previous one except that it has persisted over night and there has been slight transient abdominal discomfort in the region of the umbilicus. No other pain. Vomitus slightly blood-streaked. Appetite much diminished. Meat tends to bring on attacks. Headaches with the attacks, none otherwise. Patient absolutely denies cough and expectoration except with an occasional transient cold. No pleurisy, night sweats or dyspnea. Bowels regular. No bloody or tarry stools. Best weight 138 a year ago; now 124.

Well developed and nourished. Breath suggests acetone. Skin tanned. Pigmentation a little accentuated in axillae but not in groins. Mucous membranes slightly pale; on the cheeks and gums a few spots of dark mottling. Head and throat otherwise negative. Heart, pulses and arteries normal. Lungs and spine normal. Abdomen level, soft, tympanitic. Mass felt in the region of cecum (feces?). No spasm or tenderness. Liver dulness fifth space to seventh rib, where it is obscured by abdominal tympany. Genitals extremities, pupils and reflexes normal.

T. and R. normal. P. 80-115. Systolic B. P. 90-100. Diastolic 60-65. Urine: Amount and sp. gr. normal. At one examination very many granular and hyaline casts, a few with cells adherent. Second examination, no casts. Blood: Hgb. 85 per cent. Leucocytes and reds normal. Wassermann negative. Von Pirquet positive. X-ray: Enlarged bronchial glands, some of which are calcified. Well-marked thickening and beading of lung markings.

The gastric disturbance cleared up promptly and the patient began to improve. The seventh day, however, he vomited once or twice and felt worse. The pigmentation in the mouth increased. The fifteenth day the general condition was better, but the pigmentation was a little more marked. The

seventeenth day the patient was discharged markedly improved.

Second Entry, June 15.—After discharge from Waverly Convalescent Home eighteen days ago the patient felt perfectly well and went to work. Ten days ago he began to vomit. The vomiting has not been so severe as with former attacks but has persisted. The patient noticed that he felt much weaker than usual, and now one of his chief complaints is dyspnea on exertion. His employer gave him a sitting job, so that he was not forced to give up work until yesterday. For the past ten days he has also had a sharp pain in the right posterior chest, worse on deep breathing; strapped with some relief, but pain is still present. He has had no cough. Bowels rather constipated. Weight three weeks ago 120; now 110.

P. E. (As before, except as noted.) Emaciated; looks sick. Pigmentation in groins and over sacrum. Mucous membranes rather bluish. Pigmented areas of cheeks, gums and lips more marked than at previous entry. Lungs: Questionable slight dulness in and below right clavicle, without other abnormality. Heart negative except for soft systolic murmur at apex, not transmitted. Pulses: Right slightly greater than left; low tension. Abdomen retracted. Palpable sigmoid. No definite tenderness. Liver dulness fifth rib to costal margin; edge indistinctly felt. Genitals: Right testicle in groin; both testicles easily moved from scrotum to groin and back. Knee-Jerks just obtained.

T. normal until just before death, when it rose to 103.5. P. usually R. always normal. Systolic B. P. 80-100, diastolic 60-70. Urine: 15-70 oz 1010-1017. Rare granular cast in one of five examinations. Blood: Hgb. 80 per cent. Leucocytes 7,900-16,000. Polynuclears 76-64 per cent. Reds 3,040,000; show slight achromia. No poikilocytosis, polychromatophilia, or parasites. Platelets appear slightly reduced in number.

June 29th the patient was stronger than at admission, and the blood-pressure had come up fifteen points. The pigmentation of skin and mucous membranes was very much more marked.

July 9th the patient had two slight attacks of abdominal pain and vomiting, but had made gradual improvement. The signs at the right apex were more marked. Expiration was increased beyond the physiological. No rales. On July 11 the patient was given 60 grams of levulose, which seemed to upset him. From this time he lost ground. He had nausea and pain in the abdomen. On July 16th he died.

Clinical Diagnosis:—

Autopsy Findings:—

Case Number 5.—A man of sixty-nine entered the hospital June 10th. F. H. Mother died at sixty-one of "dropsy." Wife died twenty-four years ago of Tb. P. H. Diphtheria, small-pox (from inoculation), typhoid in 1855, pneumonia in 1860. "Malaria" intermittently from 1862 to 1885; none since "Asthma" for the last four years.

Habits good. Bowels constipated. Nocturia three. Denies venereal. P. I. For the past four months his feet have been swollen. He is troubled a good deal with palpitation, and can frequently "feel his heart skip two or three beats." Two months ago began orthopnea and very severe dyspnea. Has had five or six attacks, usually at night, when he thought he was going to die from suffocation. No pain, but a sense of constriction about the chest. Digestion excellent. Bowels very constipated for the past two or three months. Appetite very poor. Has eaten no meat for two years because his teeth are too bad to chew it. Feels fairly strong. Subjective noises for the past ten days. Chief complaint dyspnea. Has lost sixty-seven pounds in a year and a half, but gained twelve in the past year.

P. E.—Well developed and fairly nourished. Skin clear, pale yellow. Head, throat and glands negative. Heart: Apex impulse felt faintly in the fifth space, 2 cm. outside the nipple line. Right border of dullness 4 cm. to the right of midsternum. No supra-cardiac dullness. At the apex a soft, high-pitched systolic murmur, not transmitted to the axilla, accompanies and follows the first sound. Sound faint; A2 and P2 equal; both doubled. Brachials tortuous. Lungs negative except for slight dullness and occasional fine crackles in the right lower back, when the breathing is slightly diminished. Abdomen: Shifting dullness (?) in the flank. Liver dullness fourth space to 2 cm. below costal margin, where a sharp edge is felt. Rectal examination and genital negative except for a large right hydrocele and a small right inguinal hernia. Moderate edema of lower legs. Pupils irregular. Fundi "suggest beginning neuroretinitis." X-ray; "Bismuth enema did not pass beyond the hepatic flexure, except in small amount. Cecum filled poorly. Question of obstruction at the hepatic flexure. "Bismuth Meal." Constant irregularity of the antrum. Question of malignant disease of the antrum and pylorus examination not entirely satisfactory.

T. never over 99.5 rarely above normal. P. 80-95 R. normal. Systolic B. P. 130, diastolic 60. Urine: Amount normal. In two out of three examinations sp. gr. 1015. Otherwise normal. Sediment showed once many pus cells. Blood: in ten examinations reds 1,920,000 to 988,000. Hbg. 55 per cent to 40 per cent. Leucocytes 8,200-9,000. Polynuclears 70 per cent-78 per cent. Lymphocytes 28 per cent-20 per cent. The red cells show considerable variation in size and shape—average larger than normal. No stippling polychromatophilia or achromia. 6 normoblasts, no megaloblasts. Five subsequent examinations showed no significant change. Wassermann negative. Stools negative to guaiac in five examinations.

The patient failed steadily and died fifty days after entrance.

Clinical Diagnosis:

Autopsy Findings:

Case Number 6.—A man of sixty-two entered the

hospital March 7th. F. H. Good. P. H. Typhoid at twenty-five. Denies venereal. P. I. sixteen years ago began to have infrequent periods of frequency, slight dribbling, and pain at the end of urination. For the past ten years has never been entirely without similar symptoms. For three-fourths of a year the urine has always been cloudy, and there has been considerable difficulty in starting the stream.

Two months ago the patient had acute retention, since then he has used a catheter regularly. About this time the testicles began to swell, and have gradually grown larger and more tender, the left more than the right, until now the left is the size of a small grape-fruit. Blood observed in urine for one day last summer.

P. E. Poorly nourished. Skin very loose and pale. Patient looks very toxic. Sclerae muddy. Mucous membranes pale. Pharynx injected. Some pyorrhea. Tongue deeply coated. Heart. Normal, except that apex is 2 cm. beyond nipple line. Pulse normal. Radials considerably sclerosed. Lungs, normal except for a few moist rales in both axillae. Abdomen. Normal. Genitals. Right testicle is the size of a hen's egg, slightly nodular and hard. Epididymis considerably thickened and in places almost fused with the body of the testicle. Left testicle enlarged to size of a small grape-fruit, hard, nodular, moderately tender. A few projecting areas show fluctuation. Rectal. Mucosa smooth slightly redundant. Prostate considerably enlarged, regular in outline slightly tender, so soft that it suggests fluctuation in places. No mucus or blood.

T. usually normal until two weeks before death; subnormal preceding death. P. usually 80-110. R. normal. Urine. 60-70 oz. Cloudy, at entrance amber, a week later pale, two weeks afterward red. Acid at entrance, afterwards alkaline. Sp. gr. 1012-1032. Albumin slight to large trace. Sediment showed pus and blood. Blood. Hgb, 75 per cent. Red blood corpuscles 3,960,000, leucocytes 10,800; polynuclears 79 per cent. Moderate achromia. Renal function (Out-Patient Department, 6 weeks ago), appearance time thirty-three minutes. Amount in one hour 16 per cent. Four days after entrance appearance time one hour and eight minutes. Amount in one hour 18 per cent. B. P. Not recorded.

The day of entrance supra-public cystostomy and left orchidectomy were done. The patient did well after the operation. Ten days later prostatectomy was done through the old cystotomy wound. The patient stood the second operation fairly well. A week later it was noticed that at times his pulse was very weak and he was quite drowsy. Urine 70-80 oz. On the 23rd day his heart was so appreciably weakened that he was stimulated with caffeine. After this, however, the heart, the wound, and the general condition improved, with one slight lapse, until the forty-ninth day. Then the patient became apathetic, slept much, ate almost nothing, and showed pulse of a poor quality. The fiftieth day fecal masses

were found forming a hard cylindrical tumor impervious to high oil enemata. The pulse was of very poor quality. The patient continued to sink, and that evening died.

A meeting of the Clayton County Medical Society was held Friday, May 7th at the Clark Hospital in McGregor. The following papers were read and discussed.

An Interesting Case of Obstetrics...Dr. H. H. Clark
Leucocytosis and its Meaning.....Dr. F. R. Cutler
A Specific in Medicine.....Dr. W. J. McGrath

The regular monthly meeting of the Decatur County Medical Society was held in Leon April 29th at the library assembly rooms and it was one of the best meetings the society ever held. Dr. J. S. Coontz of Garden Grove, had a paper on "Myeloid Leukemia," with presentation of a case, Dr. Frank M. Fuller of Keokuk read a paper on "Diagnosis and Diseases of Children," Dr. Arthur Steindler of Des Moines gave an address on "Spastic Deformities," illustrated with lantern slides, Dr. F. A. Bowman of Leon spoke on "Salpingitis," and there was an interesting paper by Dr. W. E. Lyon of Garden Grove.

The Fayette County Medical Society met in Donnan Friday, April 30th. There was a good attendance of the physicians from the various cities and towns of the county. The towns best represented were Fayette, Oelwein, West Union, Waucoma and Hawkeye. The physicians enjoyed a dinner and social time at the hotel before the regular business session when the following officers were chosen: President, Dr. D. N. Pattison, Oelwein; vice-president, Dr. R. A. McLean, Fayette; secretary-treasurer, Dr. D. W. Ward, Oelwein. Board of censors, Dr. W. H. Fox, Waucoma, three years; Dr. G. D. Darnall, West Union, two years; Dr. J. N. McLean, Fayette, one year. Delegate to State Society, Dr. T. N. Walsh, Hawkeye. Alternate, Dr. J. B. O'Connor, Oelwein.

Doctors Fox, Leehey and Darnall were appointed a committee to arrange for a scientific program for the next meeting which will be held at Donnan the middle of June. Meetings will be held at regular intervals throughout the year.

The Harrison County Medical Society on April 28th had this program:

Ileus; the Importance of a Differential Blood
Count in the Diagnosis of This Condition,
Dr. C. H. Newman, Omaha, Nebr.
Diagnosis and Treatment of Infantile Cardiac
and Bronchial Asthma,

Dr. Newell Jones, Omaha, Nebr.
Early Diagnosis of Aortic Insufficiency,

Dr. A. H. Konigsmacher, Missouri Valley

Dr. C. S. Kennedy, Logan, was elected delegate to the State Society and Dr. John Tamisiea, Missouri Valley, alternate.

On May 25th the Polk County Medical Society met in the club room of the Savery Hotel. The program was:

1. Reclamation of Advanced Syphilitic Cases,

Dr. R. A. Weston

In dealing with this subject the cases reported by Dr. Weston have shown alarming involvement of the nervous centers. In fifty such cases they have been classified as follows: Paresis seven, locomotor ataxia twenty-five, syphilitic meningitis three, syphilitic gumma ten, syphilitic arteritis five. Reports of serologic work done on these cases and treatment considered best. Saturation with mercury by hypodermic, inunction and oral injection, during treatment is recommended. After obtaining a highly salvarsanized serum intraspinal injection by the Swift and Ellis method was used, beginning with twenty-five C.C. of serum increasing to fifty-five C.C., five to ten C.C., increase being given each week. A number showed considerable improvement although only five were cured.

The author is inclined to place greater stress on the increasing intravenous salvarsanization method in preference to the intraspinal method, except in a few selected cases.

2. Sinus Infection.....Dr. T. A. Minassian

Dr. Minassian concludes that the evil effects of chronic sinus suppuration on the body as a whole may be produced in three ways: by pus being swallowed into the digestive tract; by extension of the process into neighboring structures; by absorption of micro-organisms or their toxins through blood or lymph channels into the general system.

The structure of the eye may often be involved as the result of close relationship to the sinuses. Other modes of extension are into the brain, causing brain abscess and meningitis or into the neighboring cranial bones producing acute diffuse suppurative osteomyelitis, a rather rare complication.

As a source of systemic infection causing the so-called idiopathic arthritis, nephritis, endocarditis, sinuses may rival the tonsils, some day when the diagnosis of sinusitis is as accurately made and the condition is as often detected as chronic tonsillitis.

The semi-annual meeting of the Washington County Medical Society was held May 5th in Washington at the Commercial Club. The attendance was large and a spirit of great interest was manifested in all the topics that were brought before the physicians present.

Dr. Geo. W. Hay, president of the society, presided at the meeting. Those present were Drs. J. H. Hull, I. E. Huston, J. C. Boice, C. W. Stewart, H. H. Moore, W. E. Grigsby, C. A. Boice, C. W. McLaughlin, H. F. Masson and J. E. Edgington of Washington; R. A. McGuire and W. S. Parks of Brighton; Enos Miller of Wellman; L. M. Downing and A. L. Brady of Kalona; N. J. Lease and J. W. Huston of Crawfordsville, and S. Dings of Keota.

The Misses Elizabeth Findley, Esther Runyon and Agnes Swift were also present as visitors.

Three new members were elected to membership in the society, Dr. W. E. Grigsby and Dr. H. H. Moore, who have recently located in Washington, and Dr. S. Dings of Keota. After their election, the regular program was opened by a paper, "Cholelithiasis from a Patient's Viewpoint," by Dr. W. S. Parks of Brighton. A general discussion of this subject followed with talks from Doctors C. W. Stewart, L. M. Downing, J. E. Huston, W. E. Grigsby and Miss Agnes Swift.

"The Physician's Duty to the Hospital" was the title of an extremely interesting paper by Miss Elizabeth Findley, superintendent of the Washington County Hospital. This topic led to another general discussion in which H. F. Masson, J. H. Hull, W. S. Parks, W. E. Grigsby and C. A. Boice took part. The regular program was closed by a paper on "Chronic Appendicitis" by Dr. H. H. Moore, and his paper was supplemented by remarks from S. Dings and H. F. Masson.

At the meeting of the Winneshiek County Medical Society held at Decorah Friday, April 23rd, the program covered matters that are either new, or at least of current interest in the field of medicine, such as the new attitude of newspapers to the public in refusing to aid the patent medicine frauds; the new attitude of the public in its own defense from criminals and other "excrement of civilization;" the new legislation protecting the public from ignorant practitioners; the two new facts in the science of germ life; namely, that a harmless germ in the mouth may develop into a serious menace to health and become the cause of different diseases in several parts of the body; and that germs commonly live in the blood and are carried about, causing trouble at points where they lodge, varying from the slow developing bony stiffness and perennial aches of rheumatism to the acute horrors of appendicitis; and finally the two new facts that dentists have discovered, viz: that disease of the gums is due to amebae and not to bacteria, and that instead of being hard to cure it can easily be cured by ipecac.

F. W. Biermann gave reasons why his Decorah Journal does not accept patent medicine advertising and considered also the stand doctors are taking in regard to the new science of eugenics.

L. M. Enger, just home from legislative duties, spoke of matters which came before his senatorial committee on public health.

A. J. Swezey, referring to the few cases in obstetrics which die, recommended that when difficulty can be anticipated, as in many cases it can, the patient should be taken beforehand to a hospital where appropriate surgery can be used at whatever moment the conditions make it advisable. In this way the life of mother and child can be spared.

Speaking under the general subject of focal diseases as a cause of systemic troubles H. H. Thomas

reviewed the investigations of the past three years in bacteriology which, as already mentioned, have developed most important facts which have not only given physicians a better understanding of disease but have provided them with more definite and more successful means of treating disease.

T. C. Hutchinson told what disease of the gums is from a dentist's standpoint. In the newer light physicians can get results in treatment of systemic diseases only by calling upon the resources of the dentist. The speaker spoke in detail of these resources and of the greater advantages of co-operation between the oral specialist and the general practitioner.

The new cure of disease of the gums was to have been presented by S. P. Dahl, A. F. Barfoot, C. L. Topliff and O. Boe. They being absent, Dr. Hexom took up the topic and created much interest by telling of his visit to the laboratory in New Orleans where the cause and cure of pyorrhea was worked out about three months ago.

Doctor H. B. Amy presided at the meeting. Among those present not already mentioned were A. C. Woodward, A. E. Conrad, A. C. Hennessy of Calmar, Byron Lewis of Ridgeway, E. A. Nash of Frankville, and J. J. Daly, secretary.

The physicians of Osceola, O'Brien, Lyon and Sioux counties have organized a district society to be known as the Northwest Iowa Medical Society. It is the present plan for the County Medical Society in each of these counties to surrender its charter and have a new charter issued to the district society instead. The new officers are, Dr. F. P. Winkler, Sibley, president, and Dr. J. M. Crowley, Rock Rapids, secretary.

MARRIAGES

Dr. Patrick E. Keefe to Miss Mary Twohig, both of Sioux City, May 4, 1915.

Dr. J. E. Stansbury to Miss Reina Conn, both of Cedar Rapids, May 12, 1915.

Dr. W. P. Sherlock, of Keokuk, to Mrs. Maude Coon, of Kansas City, May 10, 1915.

BIRTHS

Dr. and Mrs. C. L. Franklin, Des Moines, a son, May 11th.

DEATHS

D. J. Swartzendruber, M. D., for many years a practicing physician at Kalona, died suddenly from heart failure at his home May 4th.

E. L. Kerns, M. D., formerly a practitioner at Villisca, died after a long illness at his home in Moline, Ill., May 1st, aged forty-nine years.

Samuel Druet, M. D., College of Physicians and Surgeons, Keokuk, 1874. In the 90's Dr. Druet served as state senator from his district in Southern

Iowa; for twelve years physician at the Anamosa penitentiary; a practicing physician at Anamosa for seventeen years, died at his home May 2nd, aged seventy years.

James Francis Hackett, M. D., State University of Iowa College of Homeopathic Medicine 1889; formerly of Kellogg, died at the home of his son-in-law, Maxwell, Iowa, May 9th, from paralytic stroke, aged sixty-five years.

Hunter C. Crary, M. D., at one time a practicing physician at Milford and Spencer, Iowa, associated at the latter place for fourteen years with the late Dr. Charles McAllister, died at his home in Detroit, Michigan, April 14th.

Dr. Lewis C. S. Turner of Colfax, Iowa, died May 18, 1915, aged sixty-one years. He was born and reared in Jasper county, Iowa, where he attended the common schools and later Simpson College, Indianola and Central University, Pella, Iowa, afterwards studying medicine, graduating from the College of Physicians and Surgeons, Keokuk in 1882.

Dr. Turner began practice at Colfax where practically all of his professional life was spent. His acquaintance was large and his influence in the community very great. He was a man of good attainments and was recognized among the members of the profession as well as among his patrons as a man of the strictest integrity. On the day of his funeral, all the business houses in Colfax were closed in honor of his memory thus testifying to the esteem in which he was held by the entire community. The ceremonies were under the auspices of the Masonic Fraternity, he having been an active member of that order. Dr. Turner was a member of the Jasper County and Iowa State Medical Societies.

CHANGES OF LOCATION

Dr. O. H. Pagelson, formerly of Iowa Falls, has located at Ft. Dodge.

Dr. Wm. H. Halloran, of Paris, Illinois, has located at Audubon.

Dr. Max Emmert, of Atlantic, has sold his practice to Dr. Claude E. Thompson, of Marne. Dr. Emmert will locate in Des Moines.

Dr. R. C. Crumpton, of Chicago, a graduate of Rush Medical College, has associated himself with Guy T. McCauliff.

Dr. D. U. Surface, of Montana, has located at Onawa, engaging in practice with Dr. James H. Talboy of that place.

Dr. E. L. Bennett, of Seattle, Wash., a graduate of Jefferson Medical College, has associated himself with Dr. N. C. Morse, of the Emergency Hospital, Eldora.

Dr. John R. Buser, of Delavan, Minn., has purchased the practice of Dr. A. C. Manahan, La Porte City. Dr. Manahan will locate at Bronsdale, Minn.

Dr. T. H. Murray, of St. Louis, Mo., has pur-

chased the practice of Dr. J. G. Macrae, of Greenfield.

Dr. E. A. Graham, of Chicago, has been secured as head surgeon at the Park Hospital, Mason City.

Dr. J. F. Torpey, of New Hampton, has sold his practice to Dr. M. J. McCrane, of Hynes. Dr. Torpey will do post graduate work for some time in Chicago.

MEDICAL NEWS

Dr. B. E. Eversmeyer, of Muscatine, has gone to Chicago for post graduate work.

Dr. C. R. Jones, of Griswold, has gone to New York City for a post graduate course.

Dr. C. P. Waters, of Iowa Falls, has gone to Chicago for further study in his profession.

Dr. G. W. Forester, of Pomona, Cal., Drake class of 1894, visited friends in Des Moines last month.

Dr. P. E. James, of Exira, has gone to Chicago for post graduate work in disease of the eye, ear and throat.

Dr. F. P. Amdor, of Carbon, sustained a fracture of the right knee cap from a fall in the bath room, a short time ago.

Dr. M. L. Turner of Des Moines, has gone to Boston, where he will do special work in diseases of children at Harvard.

Dr. Marian E. Mitterling, of Webster City, recently underwent an operation for exophthalmic goitre at Rochester, Minn.

Dr. C. H. Bryant, of Corning, has returned from Chicago, where he underwent an operation for removal of cataract of the eye.

Dr. A. Anderson, of Estherville, was operated upon recently for gall-stones and appendicitis from which he is making a rapid recovery.

Dr. R. S. Fillmore, a graduate of the Washington University of St. Louis, has associated himself for practice with Dr. A. L. Bushby at Corwith.

Dr. F. S. Clarke, of Le Mars, has sold his practice to Dr. J. A. Lamb, of Kansas City. Dr. Clarke goes to New York City for post graduate work.

Dr. J. W. Coakley, of Creston, who has been seriously ill for some time, has been taken to the Presbyterian Hospital at Omaha for treatment.

Dr. Myrta Knowles, of Hampton, has returned from a three months' post graduate course in Chicago. Dr. Knowles is on the medical staff of the Lutheran Hospital at Hampton.

Dr. Alden R. Hoover, formerly of Muscatine, who has been in Iowa on a nine months' furlough from his hospital work at Caesarea, Turkey, Asia Minor, has been summoned to fight typhus in that region.

Among the physicians, who have recently gone to Europe for Red Cross and other relief service are: Dr. C. H. Cogswell, Jr., of Cedar Rapids for work in Belgium and Dr. R. W. Mendelsohn, for-

merly examining surgeon at the Naval Recruiting Station at Des Moines, to fight typhus in Serbia.

Dr. J. R. Gorrell, of Newton, celebrated his eightieth birthday May 6th. Dr. Gorrell served as surgeon in the 29th Indiana Infantry. He came to Newton in 1865, where he practiced his profession for many years.

The United States Public Health Service reports that since the outbreak of plague in New Orleans last year 350,881 rodents have been captured; 36,372 buildings have been rat proofed; 242 cases of rodent plague have been diagnosed, the last case of rodent plague being diagnosed May 17, 1915. The last case of human plague was diagnosed October 4, 1914.

The forty-first anniversary of the practice of medicine at Leon by Dr. H. R. Layton was celebrated May 4th with a banquet at Hotel Leon, tendered Dr. Layton and his wife by his fellow physicians and their wives. After the banquet the guests assembled at the doctor's home where as a mark of appreciation he was presented a silver loving cup by his colleagues.

HOSPITAL NOTES

Spencer Hospital which was opened for the receipt of patients in January, 1915, reports that up to April 1st twenty-six patients have been received. The income for this period was \$975.35, expenditures \$955.50.

Cherokee is planning for a new hospital to be known as the "Sioux Valley Hospital." It is thought that this name will prevent confusion with the state hospital for the insane.

Rev. J. W. Turner, of Shenandoah, has been appointed superintendent of the Congregational Hospital which is being erected in Des Moines.

Eighteen nurses were graduated at the commencement exercises of training school for nurses of the Iowa Methodist Hospital, May 28th.

The City Hospital at Shenandoah, formerly a private enterprise, now a public and eleemosynary institution is making an enviable record.

The Oskaloosa Hospital reports the months of March and April to have been the busiest in the history of the institution, taxing its capacity to the limit.

The baby fresh air roof camp conducted by the Iowa Methodist Hospital, Des Moines, last summer was so successful in the cure of babies in need of special care that it will be extended this year so far as space on the roof will permit.

OUR ADVERTISERS

ABDOMINAL SUPPORT IN TREATING INTESTINAL STASIS

The importance of proper abdominal support in the treatment of intestinal stasis has been emphasized by Sir Wm. Arbuthnot Lane. Many and various are the belts and supporters that have been recommended, but for actual serviceability there is nothing that gives such satisfaction as the Storm Abdominal Binder. In order to accomplish its full benefits an abdominal belt must furnish real support without constriction. The Storm Binder meets these requirements in every way, and is so comfortable that it can be worn constantly by the most fleshy and obese patients. It certainly solves the problem of abdominal support and without the discomfort that has made so many other appliances for the purpose impractical and valueless.

THE MINIMAX SYSTEM

The object of the compiler of this form of collecting for the Medical Fraternity is to present something that appeals and at the same time does not provoke the debtor or lose the patronage. The ethics of the profession are in no manner intruded upon, and in fact it is the only convenient and simple form of notifying the debtor that is upon the market today at so reasonable a price.

The fact that this new idea of suggesting the payment of a debt is meeting with great approval has been demonstrated beyond a doubt, and the many pleased, thoroughly satisfied professional men acquainted with the necessity of this article have fully endorsed the use of same by placing it among their office necessities.

AN IDEAL ETHER CONTAINER

To their well-known ether can with dropper-tube attachment Parke, Davis & Co. have added the regulation outlet or corked opening. This was done for two reasons. While a vast majority of anesthesiologists will undoubtedly continue to use the bent dropper-tube, which when cut permits the entry of air in one section and the ether to flow from the other, the older method may occasionally, for some reason, be preferred. Then, again, ether may be wanted for some purpose other than anesthesia. The improved container meets both needs. The physician can utilize the bent-tube device if he chooses. He can use the corked opening if he prefers. The new ether container appears to leave nothing to be desired.

SOME STARTLING FIGURES.

It is a startling statement recently made by Prof. Irving Fisher of Yale University, who is chairman

of the reference hygiene board of the Life Extension Institute: Of 2,000 New York bank clerks subjected to physical examination only three per cent were found to be free from physical impairment or dangerous habits; although their average age is only thirty-three years, 13 per cent of these young men and women had hardening of the arteries, 5 per cent had organic heart disease, and 28 per cent had kidney disease. The institute is endeavoring to raise the averages of human life by education along the lines of systematic periodical physical examinations, by which the individual may find his weak spots and by dieting, physical exercise, medical treatment or other forms of personal hygiene overcome these handicaps.

This system was adopted at the Mudlavia Sanatorium at Kramer, Indiana, several years ago, where its efficiency, both in education and results, has been clearly established. They take this logical stand that a man's annual physical inventory is of much more importance than an annual inventory of his commercial assets, chiefly because the success of his business depends upon his health; that while an examination is necessary to intelligently treat disease, it gives the patient information that he should know, that he may himself assist in regaining health and be able to keep his physical condition normal after it has reached that point; that it affords absolute protection from contagious diseases, which every well-guarded sanatorium does not accept and which might be imposed upon it but for this examination. Making this the basis of the treatment, Mudlavia has not only been successful in its own work but it has done much to educate the laity to the value of this modern essential.

GYMNASIA FOR SEMI-INVALIDS

It is coming to be admitted that invalids are too much indoors and that relaxation in the open air, even though no exercise is taken, is extremely beneficial.

At the Battle Creek Sanitarium two immense outdoor gymnasiums are maintained for the purpose of luring semi-invalids into the open. Separate gymnasiums being maintained for men and women, it is possible to disregard the conventional dress and really get back to nature.

Swimming pools, volley ball courts, sand baths, and just plain, every day basking in the sun are some of the joys experienced in these gymnasiums. Patients who come to the sanitarium during the summer frequently become tanned as brown as Indians and go home with almost the vim and endurance of the original Americans.

Trained instructors are in attendance at these gymnasiums in order that the exercises and play

of the patients may be directed along correct, hygienic lines. Slight restriction is placed upon the patients, however, and they are permitted to enjoy the pastime which most thoroughly absorbs them between treatments.

A. M. A. NEWS

The San Francisco Session. Changes in Schedule of Special Train

The American Medical Journal, May 22, page 1778, gives notice of a change in the American Medical Direct Route Special to San Francisco, which our Iowa delegation had made arrangements to join; as follows,

"Attention is called to a change in the schedule of the American Medical Direct Route Special which has just been announced. Instead of one train leaving Chicago at 5:30 P. M. Friday, June 18th, as previously stated, there will be two trains over this route; first, an extra fare train (extra fare \$10) leaving Chicago Friday, June 18th, at 7:00 P. M., and arriving in San Francisco Monday, June 21st, at 10:10 A. M., and second, a train leaving Chicago Thursday, June 17th at 9:30 P. M., and arriving in San Francisco at 8:55 P. M., Sunday, June 20th.

The latter is a regular fare train. The first train leaves Clinton 10:35 P. M., June 18th, and the second, 1:05 A. M., both trains pass through Iowa late at night and the former makes only a few Iowa stops, so it has been thought best and more convenient to go on the California Limited, which leaves Clinton 2:15 P. M. June 18th; Cedar Rapids, 4:15; Des Moines, 5:00 P. M.; Ames, 7:10; Omaha, 11:50 P. M., and makes stops at intermediate points and arrives in San Francisco Monday morning at 9:30 A. M., June 21st, and leaves Iowa at a convenient time of the day and evening.

You can buy your railroad tickets of your local agent, but mention your entire round trip itinerary before purchasing.

If you have not secured your San Francisco Hotel reservations, you had better write or wire the Palace Hotel, Hotel Senate or Hotel Carlton, and also make your Pullman reservations at once.

J. W. COKENOWER,
Chairman Transportation Com.

GREAT WESTERN ACCIDENT INSURANCE COMPANY

POLICIES ESPECIALLY DESIRABLE
FOR DOCTORS

Infection Construed as Accident
Des Moines, - - - - Iowa

The Journal of the Iowa State Medical Society

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DES MOINES, IOWA, JULY 15, 1915

No. 7

SOME VARIATIONS IN THE SPHENOIDAL SINUS AS FOUND IN THE ANATOMICAL LABORATORY OF S. U. I.*

H. J. PRENTISS, M. D., Professor of Anatomy,
Iowa State University, Iowa City

Mr. Chairman, Gentlemen: The title of my paper is "Some Variations in the Sphenoidal Sinus as Found in the Anatomical Laboratory of S. U. I."

My paper really consists of showing drawings of the specimens. I have used the device of outlining the cavities by stippling. As a result it appeals to the eye more readily than other method.

The majority of sphenoidal sinuses show the form as outlined in any of the text-books, but it is interesting to observe how many sinuses deviate from the usual. I have taken only a few which show these variations, those not shown being variants on these.

Plate I shows three figures, A, B, and C, indicating variations in the antero-posterior diameter of the sinuses. Figure A, is the mean between B and C. In figure B, the sinus extends to the foramen magnum, and therefore invades the basilar process of the occipital bone. In figure C, the sinus extends only to the anterior wall of the pituitary fossa.

Plates II, III, IV, and V, show variations in the sphenoidal septum. Plate II, figure D, shows the straight septum inclining to the left as it passes posteriorly, and therefore the left sinus is wedge shaped, being narrow posteriorly.

Plate III, figure E, shows a curvilinear septum developing various pockets at the expense of the opposite sinus.

Plate IV, figure F, shows the septum making an abrupt turn to the left, so that the left sinus is only a narrow slit, though it opens into the nasal cavity by its own foramen.

Plate V, figure G, shows the septum deviating markedly to the right and then veering to the left. The result is that the right sinus is made up of a wide anterior compartment connected

with a wide posterior compartment by a slit-like compartment. The left sinus therefore encroaches on the right. This left sinus also extends laterally into the great wing, and downward into the outer plate of the pterygoid process.

Plates VI, and VII, show the great extension of the sphenoidal sinus laterally.

PLATE I

Fig a

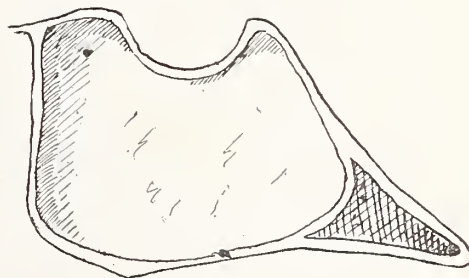


Fig b

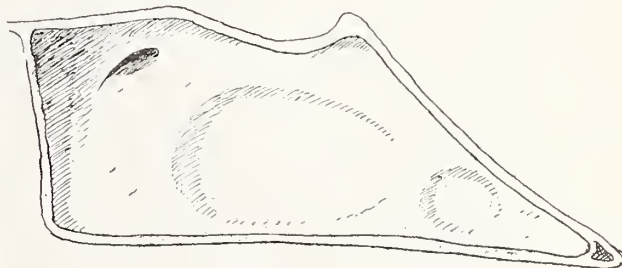


Fig c

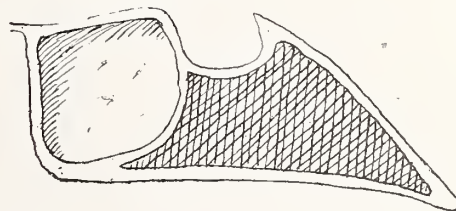


Plate VI, figure H, is a sketch looking down from above, and in which the roof of the lesser wing cortex has been removed showing a foramen connecting this upper compartment with the main sinus. The main sinus extends into the greater wing as far as the lateral cortex, and as is shown in the drawing, wraps around the foramina for exit of the superior and inferior maxil-

*Read before the Iowa State Medical Society, Sioux City, May 13-15, 1914

PLATE II

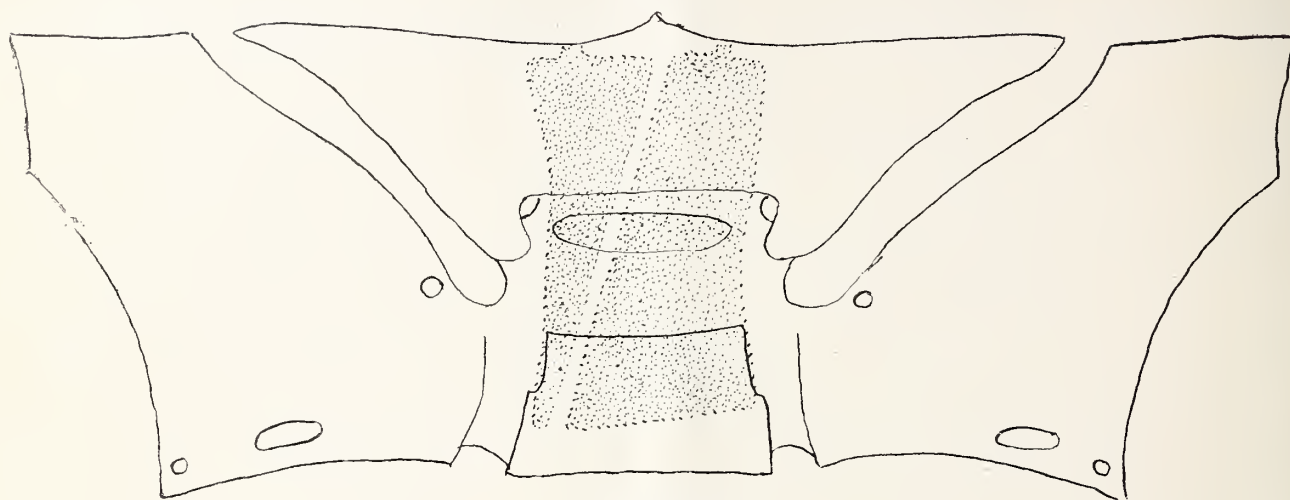
Fig. d

PLATE III

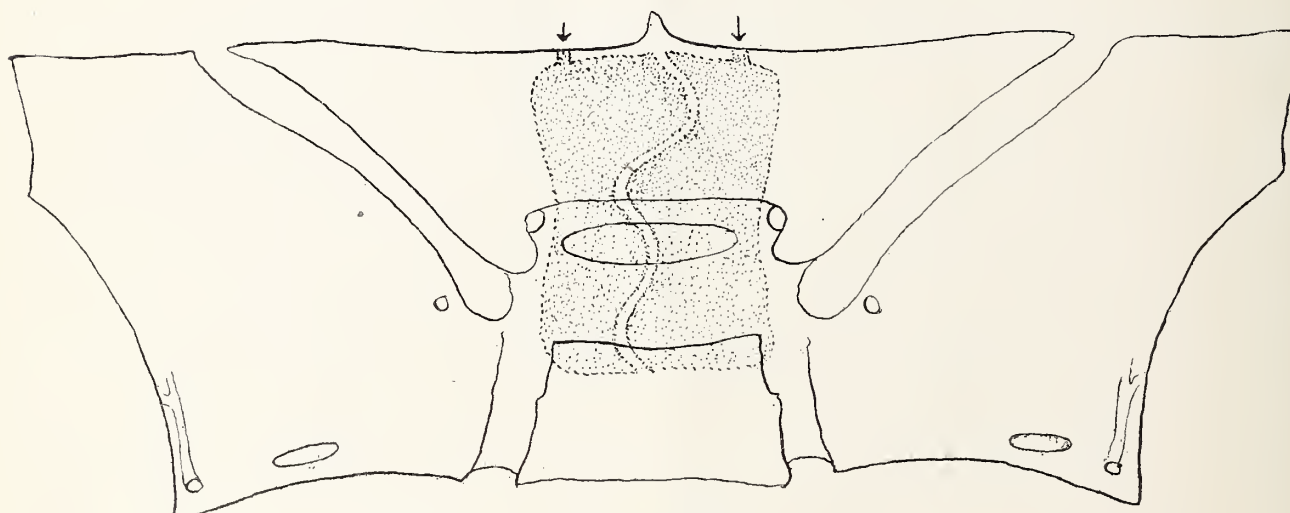
Fig. e

PLATE IV

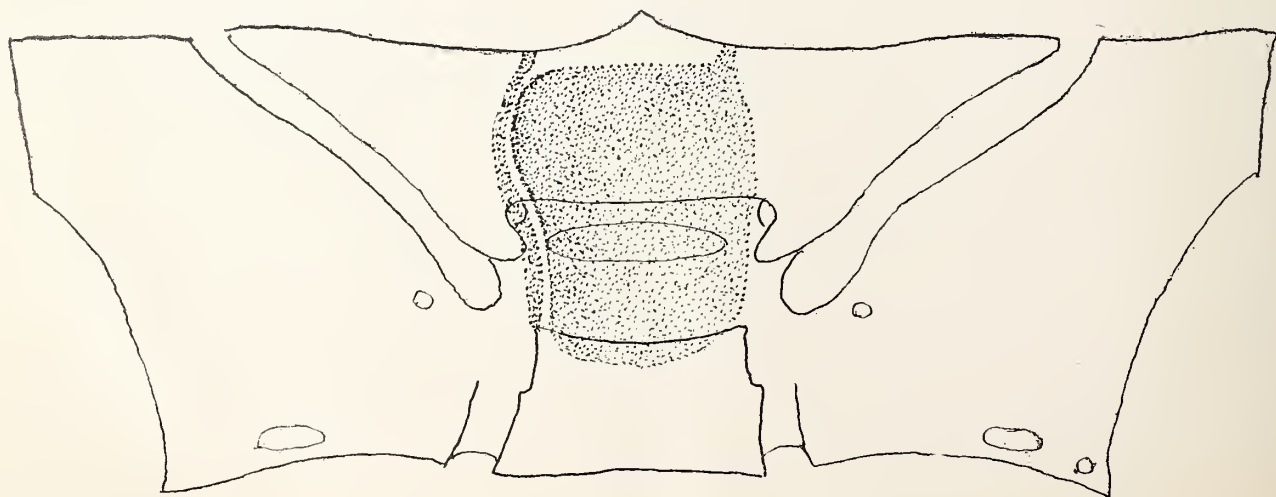
Fig. f

PLATE V

Fig. g

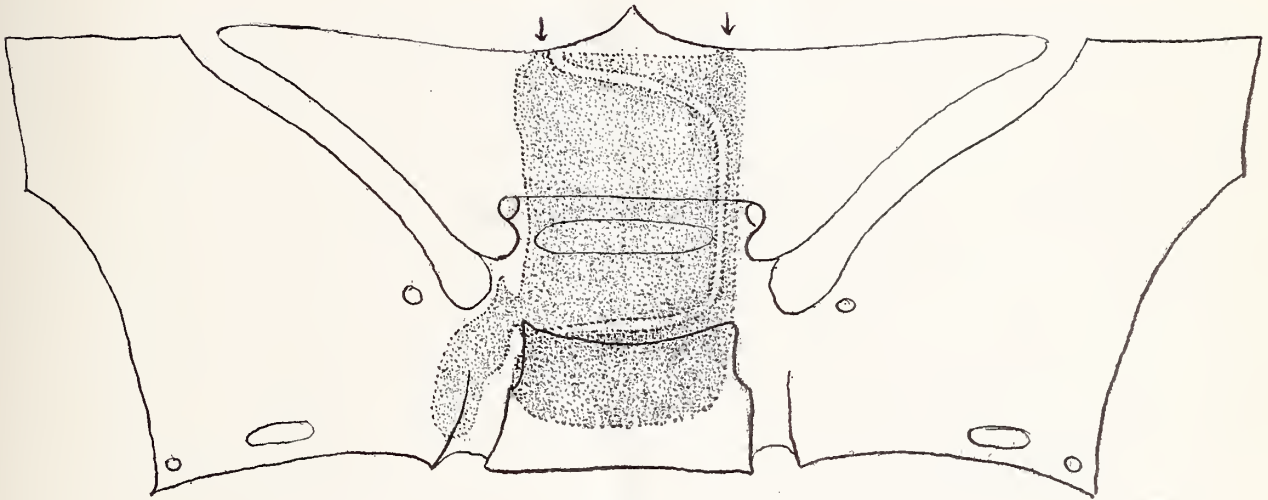


PLATE VI

Fig. h

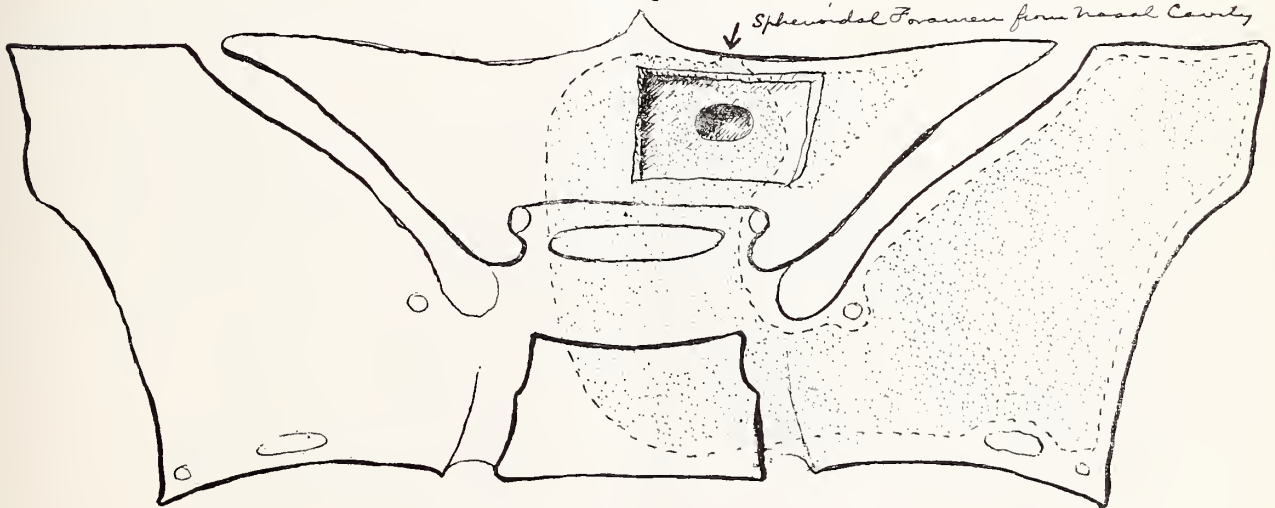


Fig. h'

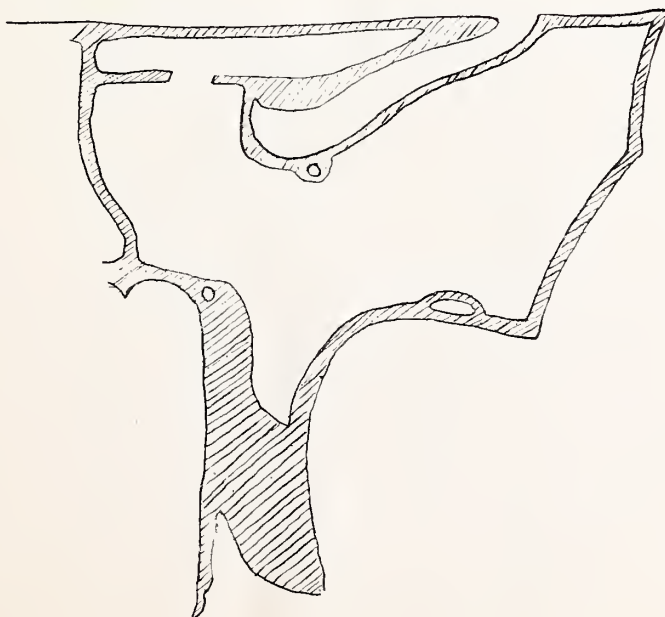


PLATE VII

Fig. i.

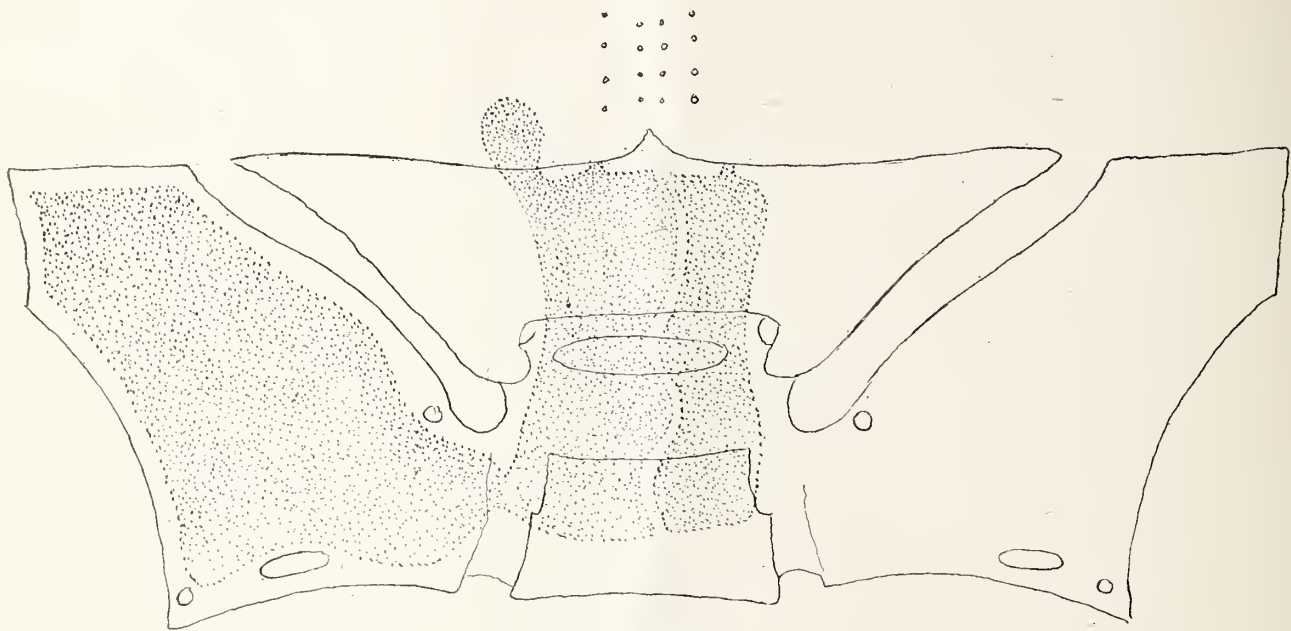


PLATE VIII

Fig. d

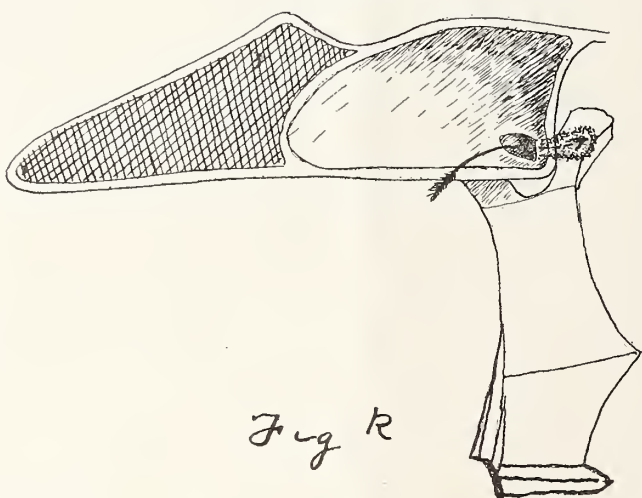


Fig. R

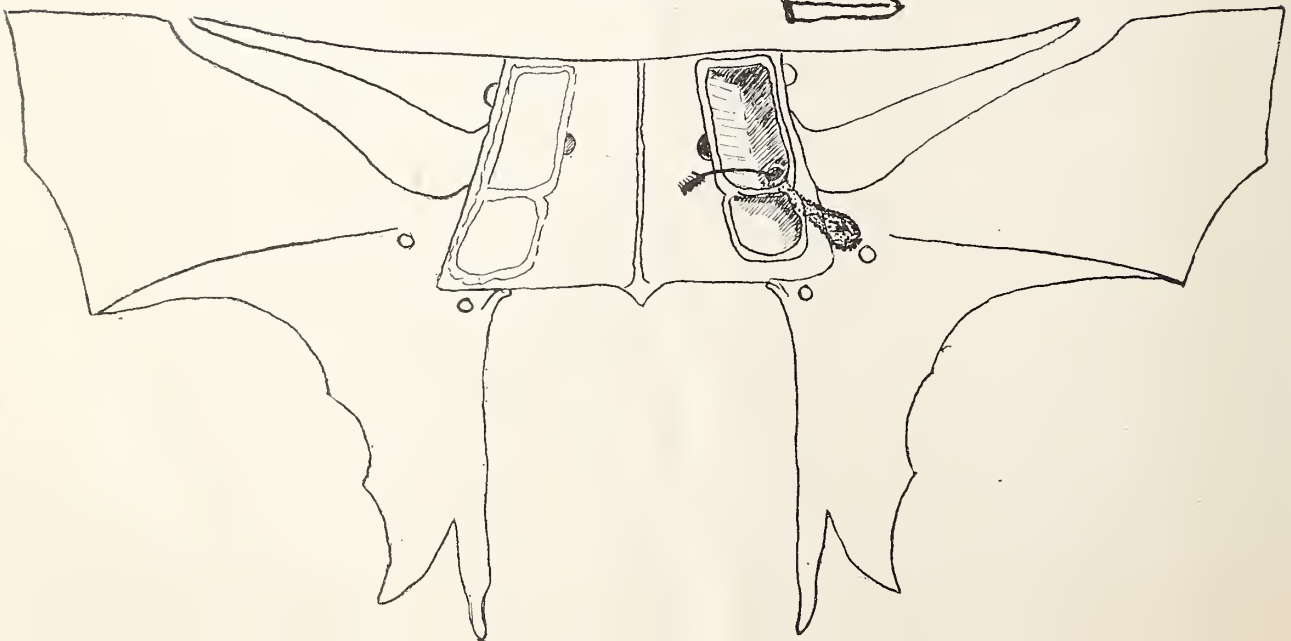


PLATE IX

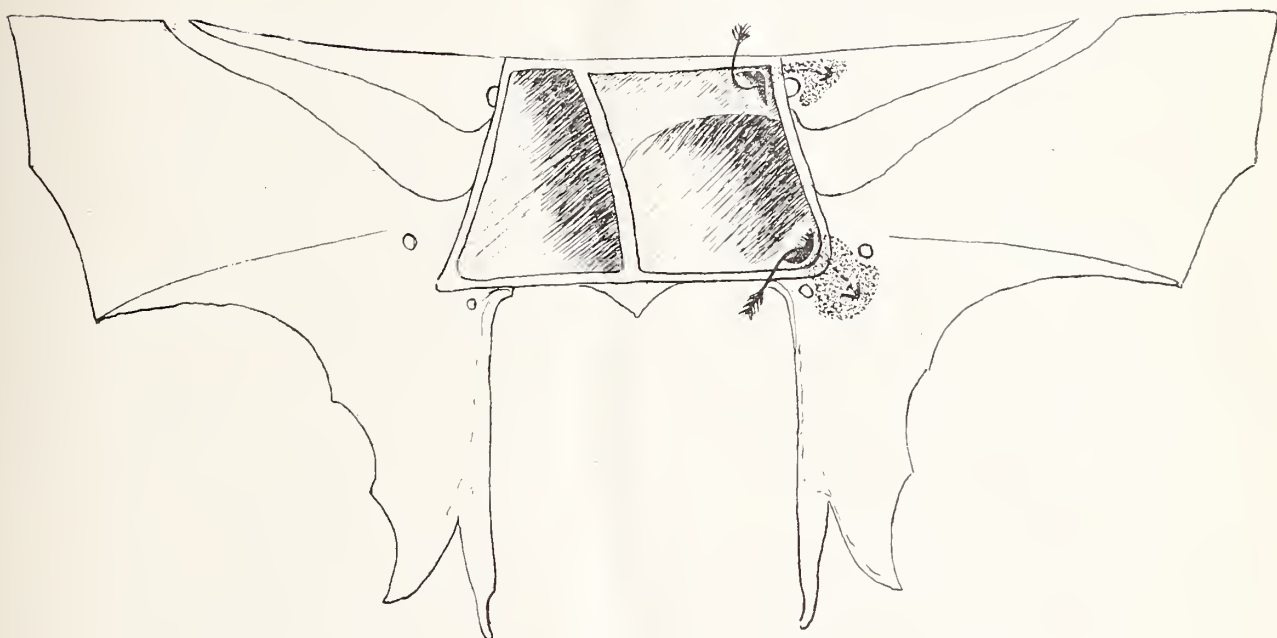
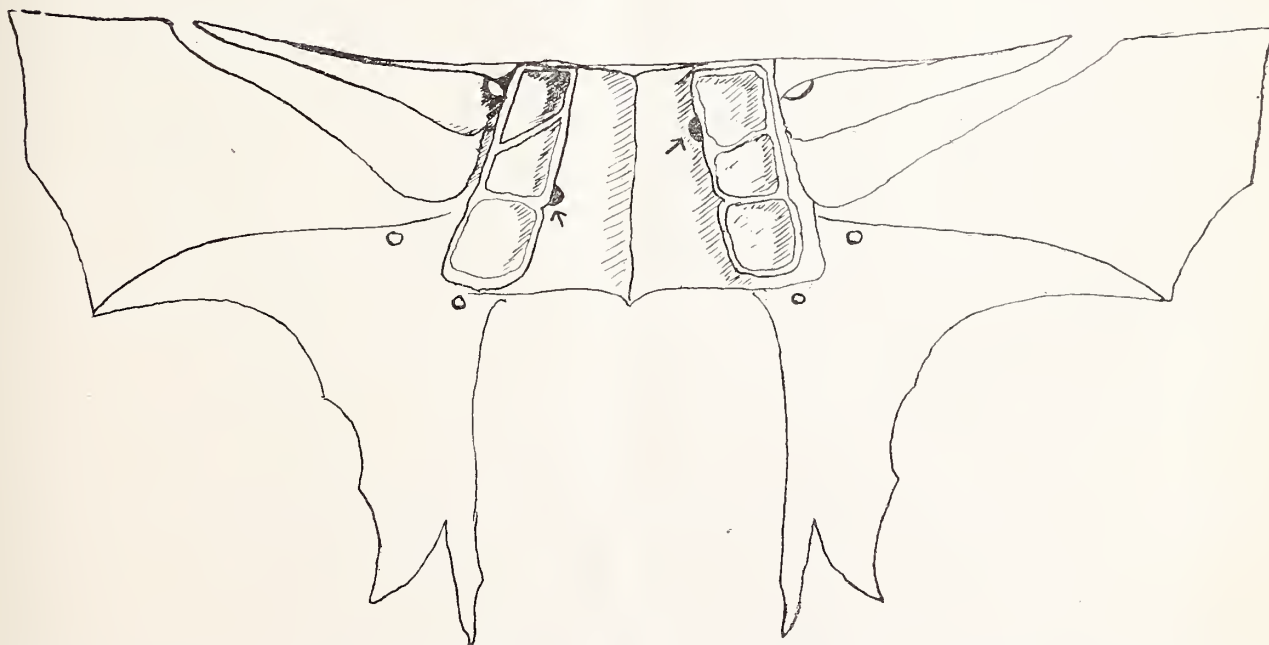
Fig l

PLATE X

Fig m.

lary nerves. Figure H, is a vertical schematic section explaining figure H. It shows the cavity of the lesser wing connecting with the cavity of the body and greater wing. It also shows the main sinus extending into the outer plate of the pterygoid process. This section shows the sinus closely related to the Vidian canal.

Plate VII, figure I, shows the left sphenoidal

sinus extending into the greater wing as far as the lateral cortex, and therefore in close proximity to the three great trunks of the trifacial nerve. This figure shows an extension of the sinus ventrally at the expense of the ethmoidal cells.

Plate VIII, figures J and K, show two small extensions of interest because of their proximity

to foramina of exit of nerves. Figure J, shows an extension into the orbital process of the palate bone, and therefore in close relation to the spheno-palatine foramen, or foramen of entrance of the spheno-palatine nerves from the spheno-maxillary fossa into the nasal cavity. Figure K, shows an extension of the postethmoidal cell into the greater wing of the sphenoid, reaching to the foramen rotundum or foramen of exit of the superior maxillary nerve. Plate I, figure B, shows an extension into the lesser wing, and therefore in close relation to the optic foramen.

Plate IX, figure L, is a ventral view with the sphenoidal sinuses exposed. It shows the left sinus sending extensions, one into the lesser wing, and the other into the greater wing. The one into the lesser wing is in close proximity to the optic foramen. The one into the greater wing extends between the Vidian foramen and the foramen rotundum.

Plate X, figure M, is simply to call attention to the variations in the position of the sphenoidal foramina. I have shown two cases in which the foramina are placed at different levels.

I can report one case of a very large sinus with no sphenoidal foramina. It was probably closed by some inflammatory reaction.

I have not seen any extension into the inner pterygoid plate, and this is probably due to the method of development. The outer plate fuses and is a part of the great wing, while the inner plate never shows a perfect fusion.

The interest of these sinuses, other than the great and small extensions, is the point that all the nerves resting on or in close proximity to the sphenoid bone, including the optic nerve, in someone of these variations is in juxtaposition to the sinus extension.

The canals of the nerves which pass through this bone sometimes project into the sinuses, and therefore there is then a very thin cortex separating these nerves from the sinuses.

DIAGNOSIS OF SPHENOIDAL SINUS EMPYEMIA*

WM. F. BOILER, M. D., Iowa City

The location and environment of the sphenoidal sinus is such that a diagnosis of empyemia is more or less difficult. Often a definite knowledge of the pathology of that region is possible only after the removal of the posterior half of the middle turbinate. Indeed Skillern with his Killian forceps and Holmes with his electric nasopharyngoscope do not claim to be able to see the ostium of the sphenoid in more than 50 per cent

of their cases. However with a little painstaking care, the use of the X-ray and the Holmes instrument in connection with Killian's nasal speculum, many of the formerly obscure things are now made plain. Skillern says the deep-lying portion of the sphenoid sinus prevents the observation of the primary changes in its mucosa; therefore little is known of the initial pathology of incipient sinusitis affecting this cavity. The fact that the ostium is located high on the anterior wall in a position which is unfavorable to drainage resembles in some respects, that of the maxillary sinus. The extreme narrowness of the spheno-ethmoidal fissure also predisposes to occlusion particularly during the engorgement coincident to an attack of acute coryza. This reacts in a double sense for the inflammation from the nasal mucosa would spread to that of the sinus as well as causing an occlusion of the sphenoidal opening and a subsequent rarefaction with the so-called negative pressure headaches.

Hence it is evident that in practically every case of acute coryza the sphenoid is more or less affected. In the majority of cases resolution of the sinus mucosa sets in as soon as the coryza abates. It would be rare indeed for the sphenoid to become affected without some of the other accessory sinuses, particularly the posterior ethmoids showing the infection. The posterior ethmoids however have a little better drainage, hence may recover leaving the disease bottled up in the sphenoid paving the way for a chronic term. This is particularly true of the inflammation following the infectious diseases, notably influenza.

When the mucous lining of the sphenoid becomes greatly affected the headaches become very severe and located in the parietal and temporal region and may radiate to one or both ears. Ocular symptoms, particularly tenderness back of and in the eye ball, are often marked. Fever, sleeplessness, general malaise and more or less dizziness follow in common sequence. These symptoms persist for a longer period of time than is usual with an ordinary cold. The direct inspection of the sphenoidal region is most difficult at this time on account of the great tumefaction and exquisite tenderness of the nasal mucosa and tissues. If an inspection is made pus may or may not be seen, and the only reliable sign is the relief the patient experiences after the sinus is washed out with an irrigating sound.

The chronically diseased sphenoid presents a most wide deviation in the number and character of the symptoms presented. The patient may not have enough symptoms to draw either his own or the physician's attention to that portion of the

*Read before the Iowa State Medical Society, Sioux City, May 13-15, 1914

cranium, while on the other hand Schaeffer in *Die Krankheiten der Keilbeinhahlen*, reports a case of suicide from this cause.

Roughly then the cases may be divided into two classes: 1. Those with free drainage and insignificant symptoms and 2, those with insufficient drainage and striking symptoms. In these of the first type are those frequently diagnosed as rhinitis-sicca, chronic rhino-pharyngitis, post-nasal catarrh, etc. The real condition present is a low grade inflammation of the sphenoidal mucosa discharging a thin muco-purulent secretion which is not confined but has a sufficient drainage to prevent pressure in the sinus.

In the naso-pharynx is found the most prominent symptoms. The patient will complain of an almost constant post-nasal discharge. This discharge has a tendency to dry on the post-pharyngeal wall and is so difficult to dislodge that the patient will get into the habit of using his finger for this purpose. The secretion has the consistency of glue and forms into a thin glazed crust often covering the whole of the post-naso-pharynx and pharyngeal wall during the night and when removed coming off in a single large crust. There is little discomfort in the anterior nasal passages. There may be an intermittent subjective cacosmia which will cause patient much discomfort and alarm. A full feeling behind the eyes is about the only type of headache. In the second class of cases headache is perhaps the most prominent and the most unreliable symptom present. The attacks come on intermittently however, daily, depending on the amount of pressure present. When the severe type of headaches appear the patient is prostrated for the time being. When the remission occurs it is seldom complete, as a dull indefinite ache persists until the next paroxysm. The patient soon learns to dread these attacks and becomes very nervous or morbid.

The location of the headaches is not constant and even in similar cases is not localized to any similar definite spot. In general it begins on the vertex and radiates down into the temples and at times into the mastoid region. Again it may center in the occipital region and radiate into the muscles of the back of the neck. A deep seated pain is located back of the eye balls and may even extend into the eye ball. In the stage of retention the headache changes its character to an intense, sickening throbbing, synchronous with the heart beat. Dizziness and vertigo are often present and manifest themselves on any sudden change of the position of the head or any sudden jarring. Tobacco and alcohol or any factor

which tends to cerebral congestion exercises a marked influence on the severity of the pain. Inability to concentrate the mind together with aversion to mental work ushers in this train of symptoms. These symptoms tend to progress. Cacosmia is frequent owing to the stagnation and putrefaction of the secretion in the immediate neighborhood of the olfactory fissure. When the olfactory fissure is occluded through the hypertrophy of the middle turbinate or polypoid excrescences, partial or complete anosmia sets in. Post-nasal discharge is present, and during the morning hours is most marked. Its consistency varies from a mucoid to a fetid purulent, but as a rule it is thickly mucopurulent with a tendency to dry on the surface and adhere to the naso-pharynx, and even to the fornix of the larynx. Rarely is there an anterior discharge as it would have to pass forward and through the narrow olfactory fissure. Sore throat is practically always present. Pharyngitis often manifests itself on the diseased side. Hoarseness and intermittent aphonia are often met with. Bronchial and gastric disturbances also occur. Tinnitus aureum without perceptible diminution of hearing or changes in the aspect of the ear drum are due to reabsorption of the toxins causing a neuritis of the auditory nerve. Scintillating scotoma is often observed. Enlargement of the blind spot is almost pathognomonic of disturbance of the post-ethmoids or sphenoid. Exophthalmos is due to edema of orbital tissue from obstruction of return venous flow. Toxemia or retrobulbar swelling due to extension forward of the purulent process. Leptomeningitis and death occur from this same cause, when there be a dehiscence of the bony wall of the sphenoid next the surface of the brain. Often on superficial examination, the nose presents no striking change. On more careful inspection the mucosa of the olfactory fissure may be found hyperplastic. There may be no pus between the middle turbinate and septum. There may be simply a small crust. Often when pus is present in large quantities it cannot be seen until the anterior structures are shrunk with solution of adrenalin and cocain. Posterior examination shows thin line of pus streaming down over posterior end of middle turbinate. Pharyngitis sicca is perhaps the most common change in the pharynx. The posterior wall is dry and smooth and has the appearance of being covered with shellac. Another form of pharyngitis is termed pharyngitis-lateratis, the pharyngeal mucosa in this type being markedly hypertrophied at the juncture of the lateral and posterior wall of the pharynx. A sweetish fetid odor, different from

other odors of nasal origin is often present. Optic neuritis and retrobulbar neuritis is a sequence of sphenoiditis.

Tunis of Philadelphia after examining five hundred wet specimens and analyzing nine cases of sphenoidal disease comes to the following conclusions:

1. Anatomically the posterior ethmoids and the sphenoid have the same intimate relations with the optic nerve.

2. Infections of the optic tract by a spreading of sphenoidal or posterior ethmoidal sinusitis is due more to continuity and proximity than any peculiar arrangement of lymphatics in this region.

3. Sphenoiditis may occur independently and unassociated with ethmoiditis or other sinusitis.

Wallis of Edinburgh in reporting his observations on the visual fields in sphenoidal sinus trouble says, "Peripheral field contraction was present in every case and marked temporal and particularly bitemporal contractions and bitemporal hemianopia is characteristic of chronic sinusitis of the posterior group. This is due in the absence of ophthalmoscopic changes to the direct action upon the nerves by contact, and is not of reflex origin."

"Central scotoma probably only occurs in acute sinusitis and results from pressure and only partly from the local action of toxins. Ringed scotoma may result from sphenoidal sinusitis. The perimeter should always be used in suspected cases of sinusitis."

The X-ray diagnosis of sphenoiditis is becoming better known and understood. However it is necessary to have not only a skilled radiographer but also a skilled interpreter to get the most from the plates.

Pfahler, of Philadelphia, who has worked in connection with Skillern considers the difference in shadow intensity of the two sides, whether the process involves the posterior ethmoids, the size of the sphenoidal sinus, the distance between the anterior wall and vestibulum nares, the shape of the sphenoidal cavity with special reference to the posterior (cerebral) and the lateral wall, as points to be considered in a good radiographic picture. He advises one anterior posterior, one lateral, and two stereoscopic lateral views, and if these are not sufficient, a vertical and posterior anterior view in addition. The use of the naso-pharyngoscope is one of the distinct advances in modern nasal diagnosis. With it the sphenoidal opening can often be seen and the neighboring conditions noted. The mucous membrane about the opening in a chronic case of sphenoiditis will appear thickened and velvety. There may be pus exud-

ing from the opening or there may be a crust attached.

Discussion of Dr. Prentiss' and Dr. Boiler's Papers on Sphenoidal Sinus

Dr. W. W. Pearson, Des Moines, Iowa—Knowing as little as any about this subject I realize with you that the problem of sphenoidal sinus pathology and treatment is a big one and will still take many years of well directed efforts for a solution of some of the problems which we are beginning to realize confront us. Often the more points we try to bring out in extemporaneous discussion the more confusing the whole subject becomes. It seems to be that prolonged study and painstaking endeavor is much more necessary in studying and handling the situation than mere brilliancy. So many things have to be considered in every case of suspicious sphenoidal trouble that we cannot always go ahead and do the things just as we would like. Patients often refuse to submit to inter-nasal operating which will give us even an approach to the sinus, checking further study. When we do finally get to the point of actually opening the sinus however I would like to put in a word of caution against too active curettement of its walls. Our knowledge of late and especially our autopsy idea has shown that the sphenoidal sinus leads to infection of the meninges, especially in young children, in the acute exanthemata, more often than is commonly supposed.

Dr. F. W. Bailey, Cedar Rapids, Iowa—Realizing, as has been said, that we can all brush up on the anatomy of these regions with great benefit, I had the pleasure last winter with a number of others of spending some twenty-five evenings at Iowa City with Dr. Prentiss on cadaver work. This has served to clear up many vague anatomical points in my mind. Unless one can do this it is pretty hard to fully understand how difficult exact drainage can be instituted on account of some of the variations and vagaries of the sphenoidal sinus cavity itself.

Dr. W. W. Pearson, Des Moines, Iowa—I would like to mention in this connection the case of a child in my practice showing the presence of very large masses of adenoids. At operation the adenoids were found attached to the anterior wall of the sphenoid which also had to be cleaned out. Microscopic examination of the growth showed a sarcomatous tumor. The tumor recurred and the little patient died soon after.

Dr. Robert Levy, Denver, Colorado—It is certainly gratifying to find anatomists like Dr. Prentiss working along these special lines. The value of such work cannot be over-estimated. It is well, I think, to realize that there is nothing regular about the size of a sphenoidal sinus. X-ray plates are the greatest comfort for while they do not show the exact contents of the sinus they do give us a general idea of the extent of these cavities for operative work. Stereoscopic X-ray plates are of particular value. Mosher's operation through the ethmoid

cells is an excellent route of approach. Variations in sinuses is a problem always liable to be present. Occasionally they deceive us in our operative work as sometimes we open a sinus thinking it involved when the other one is really the one infected. A study of nasal pharyngeal polypi impresses us with the fact that occasionally and especially where they grow large and are not multiple they come from one of the sinuses. We were not able to demonstrate this fact satisfactorily until Killian's monograph on the subject cleared up the situation and post-mortem confirmed it. It is not easy to make a diagnosis of the origin of some of these post-nasal polypi ante-mortem. In such cases it is essential to open up the sinus pretty thoroughly or the polypi is bound to recur. It is not necessary however to do heavy curetting within the sinus. Breaking down a portion of the anterior wall seems to be all that is necessary for treatment in most of our cases of sphenoidal trouble.

Dr. J. C. Beck, Chicago, Illinois—The papers of Drs. Prentiss and Boiler have been most interesting to me as I am just now making a special study of this subject for another meeting in Illinois. Dr. Prentiss has shown very clearly the variations of the sinus and its encroachment on the large cranial nerves making their exit from the interior of the skull. These vagaries or pockets are receiving a great deal of attention just now from a good many investigators, and their relation to nerves is of great and practicable interest. I have recently been making an X-ray study of the skulls of different races of men, and the X-ray is bringing out a good deal of information. I would like to say however that the X-ray in my hands is no good so far as diagnosis of actual sphenoidal trouble is concerned. While it may give you certain general information as to general outlines, at the present we can go no farther. The pathology of sinus trouble is very important, that is, whether the mucosa only is involved or whether there is bone necrosis or actual polypi. Polypoid degeneration of mucosa in sinus trouble is common. I have a photograph in my collection where the carotid artery is practically free in the sphenoidal sinus. It certainly would be in great danger from any rough curetting in such a case.

Dr. E. R. Lewis, Dubuque, Iowa—As little has been said about the method of procedure after entrance to the sinus is secured I would like to reiterate the danger of curetting the cavity as we have no business to curet it.

Dr. C. F. Harkness, Davenport, Iowa—I would also like to emphasize a bit the cases of neuralgia which may be referred to the rhinologist for examination. We often get a type of headache in sinus disease and accommodative errors as well as loss of central vision which may be the only sign. The headache of sinus disease is not vague but hurts and is distinctly intermittent.

Dr. Prentiss in closing—Symmetrical sphenoidal sinuses are the exception as found in my laboratory.

These cases presented are extremes, and their encroachment on important structures is the thing to be borne in mind.

Dr. Boiler in closing—I would like to say that the polypi in the case I mentioned was found post-mortem, not ante-mortem. The nose was apparently clean before death. In regard to the X-ray would say that while we cannot get much of an idea of the contents of the sinus it is of considerable value in securing its general size and outline which means something at least.

INTESTINAL OBSTRUCTION*

BEN C. EVERALL, M. D., F. A. C. S., Waterloo

Any narrowing of the lumen of an intestine which is sufficient to impede the passage of its contents or interfere with intestinal function in the least, may properly be called an obstruction, yet to classify such obstructions is a different matter. Intestinal obstruction is at best a clinical term, for a condition produced by a great many different causes. The old broad classification of acute and chronic obstructions is obviously a poor one, as many so-called acute obstructions become chronic, while an acute obstruction may, and often does, develop in the course of a chronic intestinal disease, as for instance fibrous bands or adhesions caused often by carcinoma. Many cases of intestinal obstruction not falling readily into either class have for lack of a didactic classification been badly diagnosed and treated, because no definite rule could be laid down for the guidance of physicians whose experience was not sufficient to be a proper guide and who in referring to text-books find the treatment of acute and chronic obstruction so vastly different as to often lose time by following the treatment for one when in reality the other condition was present, and probably in no other abdominal condition is time of more moment than in obstruction. I prefer for convenience to classify all obstructions as simply complete or incomplete, and sacrifice a broader classification in order to emphasize the importance of a correct and quick diagnosis of the cause and location of the real pathology, which, if known, is all important in obtaining prompt relief. I shall refer to stricture as being incomplete and occlusion as complete closure of the gut tract. No matter which form is encountered both are extremely serious and the end results the same. The real question is whether we are dealing with an intestinal obstruction or some other condition with the same symptoms, as in toxic-iliis which is found in uremia, sometimes in pneumonia of children and various constitutional

*Read before the Austin Flint-Cedar Valley Medical Society, November, 1914

diseases or nerve defects. Failure to recognize such disease would be disastrous. Think of the self reproach a surgeon would feel should he open an abdomen to find that he had superimposed trauma, nerve shock and an anesthetic on to a uremic paresis. Yet all of us know the extreme difficulty of properly differentiating these conditions. Paul Delbert¹ as far back as 1907 pointed out that the uremia is often latent and the first open symptom may be gastric intolerance and vomiting, which is first gastric and then bilious, and possible fecal. This with a slow pulse and subnormal temperature gives the appearance of a true obstruction, and when you consider how frequently uremia may develop following operative procedures, some idea of the importance of a differential diagnosis is apparent.

As to causes for stricture and occlusion I will omit all congenital atresias and secondary diseases as paresis and post-operative dilatations and peritonitis. Suffice to say that these are sufficiently important to be considered as separate subjects and dealt with singly and not as a part of a discussion of organic obstruction. The commoner causes of occlusion in order of frequency are: 1, strangulation; 2, intussusception; 3, volvulus; 4, impaction of foreign bodies including gall-stones, tumors, bowel contents, etc.; 5, congenital conditions, as bands, adhesions, Meckels' diverticulum; 6, inflammatory products.

Strictures are a narrowing of the lumen of longer standing and in order of frequency are: 1, retarded bowel contents with its myriad of causes; 2, adhesions and bands the result of inflammatory disease; tumors of the gut or neighboring organs. In the consideration of these diseases a differential diagnosis seems of the utmost importance aiding as it does in the location of the trouble, thus tending to its prompt relief. Probably the most common condition found by the general practitioner is due to strangulated or incarcerated hernia. If a pre-existing hernia is known to be present, we will assume that any disorder of the intestinal canal is directly or indirectly due to such hernia until we can prove otherwise. It is a well known but often neglected fact that examination may show the hernia yet kinking or a strangulation from peritoneal bands occur further up than where we find the actual hernia. I may say I regard localization of the pain at the umbilicus as the most important and earliest sign of a developing or recently acquired strangulated or incarcerated hernia.

Of aid in differentiation is the complete replacing of a hernia, and if symptoms persist either a pseudo reduction has occurred or we are deal-

ing with a more unfavorable condition of intestinal paralysis.

Internal incarceration has the same clinical manifestation as external. In both we have the same sudden, violent pain, localized especially in the umbilical region. Vomiting is nearly always present followed by the classical symptoms of complete occlusion. That is, non-passage of gas, and feces. Internal incarceration is oftenest found in the ilium. The remarkable fact is that while the trouble is in the small gut, even a well filled lower bowel will neither expel gas or feces. This is presumably due to paralysis which immediately develops. Incarceration differs radically from volvulus and more especially from intussusception, by their being no bloody mucoid passages from the intestine. Diaphragmatic hernia is rarely diagnosed. According to Lichtenstern less than 2 per cent are recognized. The only thing of practical importance is the resemblance of diaphragmatic hernia to pneumo-thorax.

Strangulation is more often met and is often due to false ligaments, bands and inflammatory products. The location in which we most frequently find this condition, of course, is near organs and parts subject to inflammatory disease, as, the hepatic flexure of the colon in gall-bladder disease. Diseases of the uterus and adnexa and appendix are prolific causes of this condition, and not least of all the end results of well meaning but badly directed efforts at surgical procedures in the abdomen.

Volvulus as analyzed by Rokitansky is still accepted as valid. He distinguishes three forms: 1, a part of the intestine twists on its long axis; 2, it twists about its mesentery as a longitudinal axis; 3, a part of the intestine with its mesentery forms the axis about which another loop of the intestine is twisted. Volvulus occurs oftenest in elderly people who have had a long standing constipation and are taken suddenly ill. The location is oftenest in the sigmoid flexure. Some abnormality of the mesentery is blamable as is also the case in congenital megala colon, although a moderate degree of Hirschsprungs' disease may be undetected during life. Symptoms of volvulus differ from incarceration, more violent pain and the passage of blood, even if the volvulus is in the small intestine. Often meteorism is localized or a pneumatic lump as it were, is felt. Vomiting often relieves the pain of volvulus temporarily and differs from strangulation in that respect. In volvulus the important point is the gradual increase in severity of symptoms, as a week may elapse before the condition appears to be serious. Surgical intervention is nearly always necessary,

and in addition to relieving volvulus should aim to prevent recurrence by fixing the loose loop after relieving the twist.

An important point in diagnosis of volvulus in the ileocecal region as differentiating from appendicitis, is the absence of fever early in the disease. Intussusception occurs more often in younger subjects than volvulus and is not always diagnosed. Intussusception may be cured spontaneously by sloughing, or on the other hand death may take place without the real cause being discovered. Two explanations of intussusception exist. In one case a spasmodic wave occurs. In the other a paralytic invagination. In the first instance the spastic bowel is pushed into the normal lower segment. In the latter the lower paralytic segment dilates and receives the upper normal bowel. In order of frequency of location we find: 1, iliac; 2 ileocecal, the ileo-cecal valve forms the point where invagination occurs; 3, ilio-colic, where the higher part of the ilium slips through the valve into the colon; 4, colic. One part of the large intestine passes into another part of the same gut. A long mesentery occurs as often in these cases as in volvulus. A peculiar fact is that children with an intussusception are of the robust, thriving breast fed type, rarely the weak ones who are affected. Clinically, sudden pain with persistent vomiting without fever in an otherwise healthy child, is almost pathognomonic. Older persons with intussusception may not have the persistent vomiting, but in children it is constant. The violent pain may cause convulsions, the child being treated for the convulsions and the real condition overlooked. There are two kinds of pain in these cases. A true colic pain which is constant, and an intermittent tenesmus. Two chief factors for diagnosis are: 1, a tumor oftenest in the ileo-cecal regions somewhat cycle shaped with the convexity outward; 2, frequent small bloody mucoid stools. Before surgery is resorted to the elevation of the hips or a complete reversal of the head and feet with enemas of oil or water under pressure, may be used. Obstruction by compression is oftenest produced by tumors, especially low in the abdomen where bony structures are available for counter pressure. True obstructions and compressions are similar in symptoms, and except for the presence of a solid mass, cannot be distinguished. The most frequent cause of true intestinal obstruction in the lumen itself is due to accumulated feces, and are oftenest in the lower colon or rectum. I would emphasize the great importance of digital examination of all cases with obstructive symptoms. Neurotic individuals who are chalk or mortar eaters or patients who

have taken large quantities of magnesium or calcium carbonate, present the same type of disease with the formation of coproliths. Gall-stones likewise have been the cause of obstruction. The size of the obstructive agent is often not great enough to fill the lumen of the gut, but the irritation causes a spasm of the intestine, thus forming occlusion which may relax under an anesthetic.

Adhesions from trauma, ulcers, T. B. and syphilis, may lead to actual occlusion, but more often a stricture occurs which does not become entirely impervious. Of the general symptoms only the initial signs are sought for, as the life of the patient depends on an early diagnosis. After the well developed symptoms appear or the so-called classical symptoms complex, anyone, even a layman, can diagnose the disease, and the prognosis is equally clear. The sudden pain is the most important single symptom. It is severe, more so in strangulated than in other obstruction, much less so in toxic and paralytic ileus. In gall-stones and renal colic this initial pain is worse on pressure, but not in ileus. Mikelitz long ago called attention to the shock and initial vomiting which comes once or twice and leaves to come back again when complete stasis has occurred, when the character becomes feculent. The temperature is of no real help. It may be febrile, normal or subnormal, more often tends early to be normal or subnormal. The pulse is lower in obstructive diseases than inflammatory diseases of the bowel. Persistent vomiting of bile and absence of feces points to a high lesion in the abdomen and the more rapidly the vomiting develops and the greater the degree of collapse, the higher the lesion because of the more profuse nerve supply of the upper abdomen.

Fecal vomiting contrary to expectations, occurs earlier and with greater frequency in obstructions of the small bowel than lower in the large bowel, as for instance we see sigmoid volvulus going a week before vomiting occurs at all, while in the jejunum we may have pronounced fecal vomiting the second day. If meteorism disappears more or less completely after vomiting, the seat of the trouble is high, meteorism in the flanks speaks for a large bowel involvement. Sluggish peristalsis occurs in the large gut and is rapid in the small. The condition of the blood passed may give a clue to how far it has traveled. One of the commonest obstructions is found in carcinoma of the large bowel. The patient has passed the meridian of life and has long been treated for obstinate constipation which has not been relieved by ordinary means, may have an alternating diarrhea and a gradual loss of appe-

tite with nausea, which compels the patient to seek relief. The first attempt at relief is usually a purgative which causes instead of relief a rapid increase in symptoms, and to use a common expression, she feels full of wind and gets no relief except from belching. An examination shows her to be distended and tympanitic. Vomiting develops and a critical condition presents itself. Still no one is alarmed, not even the doctor. No one wants an operation, but once the physician determines that there is an occlusion, the abdomen should be opened and the earlier the better, or if this relief is refused, let some one else take the case to die on his hands if the advice to operate is unheeded.

I believe it is not incorrect to state that nearly as many patients have been hastened to their final resting place by overactivity in operating as by conservatism. I mean by that that the radical removal of points of obstructions after the case presents sufficient symptoms for the average physician to make a correct diagnosis, is a travesty on good surgery. No matter how tempting and easy it may seem, if the patient is suffering from symptoms of acute obstructions it is not good surgery to do a radical operation. The fact that a few men have done such a radical operation and got away with it does not mean that they are either wise or skilful, only lucky. It will satisfy the man with the patient's interest at heart, to relieve the symptoms of obstruction, and do the radical operation later. Many, many lives are sacrificed each year to the ambition of some budding surgeon to resect or anastomose an intestine when a little tube properly placed, a stomach lavage, and a few days recuperation would convert what is a serious operation at all times, into at least a sane procedure. The ease, brevity and safety of drawing up a loop of intestines just above the obstruction and putting in a catheter as compared with the tremendous chance of a prolonged anesthesia, shock, and not to mention the other unfavorable conditions during an acute obstruction make it highly improbable that anyone except an amateur would knowingly take such a chance. It is barely probable that some operators have justified the resection of a gut during an acute obstruction because it was the only chance they had had to do such an operation and this chance was not lightly to be cast aside. Many cases of ilius are given large doses of a purgative and this is followed by a tremendous increase in pain and renders the case more serious, yet the error is so common and we all fall into it so easily, that it is the first thought in an intestinal disorder; it almost appears a justifiable error, and hardly merits censure, be-

cause it is almost impossible for even a really competent man to recognize an early case of obstruction.

The treatment of intestinal obstruction is clearly suggested by a proper diagnosis. Removal of the cause is the prime consideration, yet alleviatory measures are important. Small doses of morphine tend to relieve pain, but one must remember that the gravity of the case is then masked even to the patient himself so that permission to afford operative relief is often withheld. Theden in 1788 recommended belladonna for ilius, and in modern medicine it still has a useful field, but must be given in fairly large doses. Its greatest usefulness is in paralytic secondary ilius or where the danger of a local ilius tends to become a general paresis. Complete abstinence from food is required. The intense thirst may be relieved by quantities of water taken into the stomach which even though vomited aid in clearing the stomach of the toxins. For the dehydration of the tissues Kurchman's subcutaneous injections are best combined with a small percentage of dextrose. Of the life savers the stomach tube is without peer. It is our one greatest aid. To understand why it is necessary is to have a conception of what causes death in occlusion of the intestines. Death is due to one or more of the three following causes: 1, secondary peritonitis; 2, splanchnic paresis, that is a drawing of the body fluids into the portal area, producing cerebral anemia and death from loss of central nerve control; 3, death due to absorption of poisonous products. In all obstructive conditions the bowel content is highly infested with bacteria. Death may occur from absorption long before the obstruction per se becomes a factor of any moment, so the necessity of stomach lavage to remove the toxins is apparent. The action of the tube in the reestablishment of vaso-motor control in the splanchnic area is scarcely less important. We are familiar with the reestablishment of peristalsis often before we are done using the tube even where the stomach is dilated to hold two to four quarts. It is important to wash until the fluid returns clear unless the patient is too much shocked to persist over-long. Yet no fear should be felt no matter how extreme the patient is found or what objections are raised by the patient or friends. The use of the tube early and often should be insisted upon, even after the obstruction is removed if any symptoms persist.

Posner and Lewis² have given experimental proofs of auto infection from the intestines by the following experiment: Twenty-four hours after tying off the rectum of a rabbit they found

B colli in the blood of the heart, peritoneum, kidneys and in the urine. Genersich³ in Mikelitz clinic in 1903 recorded experiments of ligating the intestines, which produced excessive meteorism and decomposition of the intestinal contents and great damage to the intestinal walls and a rapid absorption of toxins and B colli. Magnus has isolated a true intestinal poison which is proof of the extreme necessity of emptying the stomach and upper bowel if possible by use of a stomach tube. To sum up the treatment; it consists in early relief of the obstruction, free lavage of the stomach, atropin and dextrose subcutaneously, saline infusions and last, but not least, the careful avoidance of excessive operative procedure.

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THE CYTOLOGY OF THE BLOOD STREAM
IN APPARENTLY NORMAL INDIVIDUALS

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In the presentation of this work we do not purpose to show results which will materially differ from those already shown by many eminent hematologists, and we do not feel that it would be profitable to review their work at the present time, but to show the results obtained by us in attempting to draw our own conclusions as to what constitutes a normal blood picture.

Our work includes a study of the hemoglobin, red and white cells, differential and Arneth counts in fifty apparently normal individuals. In an additional fifty normal individuals a study of the Arneth count was also made. It is self evident that many individuals who are seemingly in good condition may harbor some physical abnormality which would considerably influence the cytology of the blood, therefore, in making this study, individuals whose blood count differed from the rule were, as far as possible, given a physical examination. Fenoglia was probably the first to call attention to the fact that the color of the skin and mucous membranes or general appearance of the patient is not an index as to the condition of the blood.

Technics—The blood was collected from a free flowing puncture in the finger or ear. The time of day was always noted, but a fixed time of day was not followed, and while it is admitted that this would give more uniform results, it

would be of less practical value, as in routine office or hospital work exact times of day for blood collection may be impractical.

The hemoglobin was estimated by a color scale; double red and white cell counts were made in all cases, as we felt that this would be less liable to error than counting two drops from the same pipette.

For making the differential counts, thin smears were made on glass slides, using several slides, as a checking of counts from the same blood on different slides will soon convince one of the difficulty of obtaining an even and satisfactory distribution of the white cells.

The cells were fixed to the slide by immersing the methyl alcohol for five to ten minutes, then dried and stained with well ripened hematoxylin and counter-stained with an eight-tenths of one per cent aqueous solution of eosin. We have found this method to be of particular value in fixing and staining the nuclei of the polymorphonuclear cells. It has a disadvantage, however, of not staining the mast cells, thus leading to an error of from two-tenths to four-tenths of one per cent. Before any smear was used for counting it was thoroughly examined, as oftentimes a smear which is apparently good from macroscopic appearance, if examined by the microscope, will show the cells to be badly piled at one end or at some point in the middle of the slide.

While making the differential counts we attempted to find the number of cells necessary to be counted in order to obtain uniform results. In twenty-five counts, five hundred cells were counted, placing the polymorphonuclear cells in the five columns given by Arneth. The Arneth index and the percentage of the different forms of the white cells were calculated. Then another five hundred cells were counted, and the results obtained from counting the one thousand cells was compared with the results obtained from counting each five hundreds cells. In another twenty-five counts, two hundred and five hundred cells were counted, and the results compared as in the previous counts. By adding the differences obtained in the different percentages of the different cells of the differential count, a total per cent of error in the first series was 1.41 per cent for the differential and .22 per cent for the Arneth index. An error of 1.46 per cent for the differential and .32 per cent for the Arneth index was obtained in the second series.

From these results we feel that the conclusion is warranted that a count of five hundred cells is nearly as accurate as a count of one thousand cells.

TABLE NO. I

Haemoglobin	Red Cells	Leukocytes	Polymorpho-nuclears	Large Lymphocytes and Mononuclears	Small Lymphocytes	Eosinophiles	Mast Cells	Transitional	ARNETH					
									I	II	III	IV	V	Index
93	4,348,000	7,400	56.58	8.16	25.93	3.25	.00	6.08	8.91	23.62	44.98	19.38	3.11	55.00
97	5,272,000	8,000	64.08	7.41	21.92	3.25	.00	3.33	13.02	28.71	40.03	17.08	1.15	61.74
100	5,944,000	8,300	56.19	8.39	31.01	1.35	.00	3.06	4.27	23.19	42.27	21.66	5.42	52.77
100	4,776,000	9,200	56.70	16.38	20.03	2.27	.00	4.62	10.43	29.32	41.56	18.29	.40	60.53
90	4,650,000	6,400	61.33	16.83	17.58	.83	.00	3.41	2.27	14.52	44.50	34.66	4.05	39.04
95	5,000,000	7,200	62.75	7.58	22.33	2.25	.00	5.08	8.06	28.56	42.40	20.04	.93	57.82
92	5,736,000	9,400	49.16	12.58	32.25	2.16	.00	3.83	5.50	15.00	43.67	32.33	3.50	42.33
95	6,240,000	7,500	42.33	6.91	44.00	3.00	.00	3.75	9.85	21.66	43.11	24.39	.99	52.06
98	5,656,000	9,600	40.67	9.62	42.60	4.90	.00	2.21	4.15	25.03	54.63	15.08	1.15	56.49
100	5,208,000	9,800	64.41	11.91	14.00	6.16	.00	3.50	9.08	26.94	42.82	17.42	3.74	57.43
90	5,174,000	9,600	64.92	11.41	14.17	4.13	.00	5.17	5.72	28.99	45.80	19.23	.26	56.63
92	4,484,000	7,200	63.63	5.81	22.98	6.63	.00	.93	7.35	30.67	34.79	24.68	2.50	55.41
87	4,515,000	8,200	71.98	4.43	21.48	.75	.00	1.36	6.03	21.35	40.67	27.00	4.93	47.71
90	5,200,000	7,200	61.67	6.83	31.91	2.50	.00	2.08	4.99	17.93	43.18	26.11	6.83	44.51
95	5,824,000	8,200	55.33	4.98	32.50	2.27	.00	4.92	6.44	27.73	40.43	22.92	1.48	54.38
90	5,340,000	8,200	69.58	3.16	21.90	1.00	.00	4.33	2.48	24.65	49.41	20.32	3.14	50.83
92	4,920,000	9,000	57.30	4.41	36.20	.54	.00	1.75	7.98	38.53	43.45	9.55	.52	68.20
92	4,567,000	8,700	37.99	8.33	43.83	3.83	.00	6.00	6.57	19.26	51.32	21.93	.89	51.49
90	4,897,000	9,200	71.00	1.75	21.33	1.41	.00	4.50	4.78	22.18	40.79	28.86	3.39	47.35
92	4,678,000	9,200	58.75	10.41	24.62	4.00	.00	2.22	2.06	19.09	47.04	28.58	5.23	42.67
96	4,816,000	7,200	58.32	6.34	26.16	2.56	.00	6.72	5.07	26.16	50.47	18.30	.00	57.46
95	5,536,000	9,200	64.15	5.66	22.32	1.55	.00	6.31	5.20	17.18	46.76	29.91	1.94	45.68
90	4,853,000	6,200	47.00	10.66	33.33	4.00	.00	3.00	5.75	22.91	48.51	21.30	1.53	52.92
90	5,664,000	6,000	64.00	8.41	22.25	2.08	.00	3.25	8.88	27.69	43.43	17.00	3.00	58.29
94	4,688,000	8,600	68.38	10.41	13.08	1.41	.00	6.50	15.32	27.50	40.39	15.53	1.08	63.01
92	4,948,000	7,711	68.85	5.83	19.21	1.50	.00	1.20	11.69	25.75	46.85	13.85	1.86	60.86
92	5,004,000	6,800	59.20	6.80	25.20	2.40	.00	6.40	4.87	16.42	45.42	28.70	4.56	44.00
92	5,440,000	9,000	64.60	3.77	24.95	2.12	.00	4.56	3.04	16.20	45.06	30.50	4.20	41.77
90	5,224,000	6,600	61.60	2.70	30.29	3.40	.00	1.50	4.50	16.50	49.75	26.25	3.00	45.97
100	4,912,000	7,660	64.15	2.75	28.50	1.13	.00	3.30	9.05	25.95	44.50	17.55	2.85	57.25
95	5,240,000	8,600	54.00	6.60	32.20	1.40	.00	5.80	5.89	17.75	47.77	25.83	2.70	47.52
97	5,061,000	8,800	56.59	3.85	31.34	4.43	.00	3.34	12.82	30.63	41.35	11.70	3.50	54.12
95	4,701,000	7,200	64.05	3.16	27.26	1.90	.00	3.59	8.33	26.14	42.29	21.32	1.92	56.61
95	5,224,000	7,400	72.20	4.45	18.30	1.55	.00	3.30	2.15	13.84	51.25	27.25	5.51	41.61
95	5,670,000	8,800	66.40	4.70	26.80	1.30	.00	.80	10.00	23.75	39.25	21.50	5.50	53.37
97	5,767,000	8,200	64.50	2.20	27.30	2.20	.00	3.80	4.82	25.89	48.60	18.44	2.27	55.01
92	5,816,000	5,600	54.90	5.40	36.00	2.00	.00	1.70	7.45	21.78	51.57	17.93	1.27	55.01
100	5,500,000	9,600	69.33	6.31	18.94	.48	.00	4.94	8.27	28.00	43.30	17.80	2.60	57.92
95	5,924,000	8,400	61.55	5.67	26.40	2.69	.00	3.48	7.20	25.07	51.59	14.86	1.37	58.06
92	5,592,000	9,600	52.00	9.00	36.00	1.00	.00	1.50	12.30	26.70	45.00	13.60	2.40	61.00
97	5,232,000	7,700	55.24	5.21	35.32	1.57	.00	2.60	8.75	31.23	47.24	11.95	.83	63.60
96	4,768,000	6,800	56.20	5.40	33.60	1.20	.00	4.20	6.50	18.91	47.34	23.84	3.41	49.08
95	5,240,000	8,100	56.63	4.00	31.20	3.17	.00	5.00	1.99	28.64	42.75	13.64	3.97	61.00
93	5,850,000	7,000	68.30	6.50	18.60	3.30	.00	3.30	9.36	22.70	44.70	20.67	2.57	54.41
100	5,600,000	8,600	64.40	6.60	24.30	3.10	.00	3.60	5.27	20.84	49.88	22.73	1.78	51.94
100	5,312,000	8,900	62.86	4.98	26.70	2.05	.00	3.41	8.75	28.53	44.65	16.95	1.12	58.85
90	4,848,000	7,100	51.50	5.35	34.64	3.98	.00	4.39	4.40	24.60	40.81	26.89	3.27	49.40
95	6,000,000	8,400	64.40	4.10	21.10	4.50	.00	5.90	9.37	31.13	41.80	15.65	2.05	61.40
98	5,152,000	11,400	62.20	6.28	27.56	1.44	.00	2.52	7.90	22.64	48.22	19.97	1.27	54.65
92	4,448,000	9,200	68.33	4.10	22.32	.97	.00	4.19	4.15	23.98	49.39	21.53	.95	52.77
Avg.	5,209,000	8,014	60.02	6.68	26.88	2.44	.00	3.72	7.22	24.03	45.13	21.05	2.55	53.

In the blood of fifty apparently normal individuals in which the Arneth count only was made, one to two hundred polymorphonuclear cells were counted.

An attempt was made to show the effect of climate on the condition of the nuclei of the polymorphonuclear cells. Through the courtesy of Dr. C. C. Bass of Tulane University, New Orleans, and Dr. Roy C. Matson, University of Oregon, Portland, Oregon, twenty-four slides and seven slides, respectively, were obtained. These counts are shown in the second table, numbers one to twenty-four in the first instance and numbers twenty-five to thirty-one, in the second instance. These gave an index of fifty-three plus and forty-four plus. Counts numbered thirty-two to fifty were collected by me at Chicago, Illinois, and gave an index of fifty-three plus, and the fifty counts at Independence, Iowa, showed fifty-three plus. While the number of counts obtained from Oregon are too small to draw any definite conclusions, a suggestion is made that climate and altitude may affect a change in the condition of the nuclei of the polymorphonuclear cells. We hope to work out this point more satisfactorily in the future.

TABLE NO. II

	I	II	III	IV	V	Index
1	6	16	50	20	8	47.
2	7	19	58	33	1	45.
3	8	24	50	16	2	51.
4	8	25	45	19	3	55.5
5	7	25	46	17	5	55.
6	20	23	36	20	1	61.
7	13	15	47	20	5	51.5
8	9	33	38	20	0	61.
9	11	27	44	14	4	60.
10	10	23	54	12	1	60.
11	5	19	49	26	1	48.5
12	10	26	50	14	0	61.
13	6	23	55	14	2	56.5
14	8	14	41	34	3	42.5
15	10	15	51	21	3	50.5
16	9	24	49	17	1	57.5
17	10	27	43	17	3	58.5
18	10	28	46	16	0	61.
19	9	17	50	21	3	51.
20	10	30	48	21	1	64.
21	8	19	46	23	4	50.
22	10	32	41	15	2	62.5
23	5	14	43	33	5	40.5
24	4	15	45	33	3	41.5
25	6	11	36	42	5	35.
26	23	17	39	18	3	59.5
27	2	6	40	38	14	28.
28	9	12	50	26	3	46.
29	3	37	36	17	7	58.
30	6	11	42	36	5	37.

31	11	20	29	37	3	45.5
32	3	14	49	27	7	43.
33	15	30	44	10	1	67.
34	10	25	47	17	1	58.
35	15	28	37	16	4	60.
36	4	24	47	25	0	51.5
37	5	15	59	20	1	49.5
38	2	11	49	30	6	42.
39	19	27	40	12	2	66.
40	9	27	51	12	1	61.
41	9	24	40	26	1	53.
42	8	27	43	20	2	58.5
43	10	25	42	21	2	56.
44	9	18	40	30	3	47.
45	3	17	43	36	1	41.5
46	8	16	50	24	2	49.
47	10	20	47	22	1	53.5
48	6	24	45	24	1	52.5
49	11	28	40	19	2	58.
50	9	33	35	20	3	59.5
Average						
I II III IV V						
50 Counts: 8.76—21.60—44.90—22.46—2.28=52.81						
100 Counts: 8. —22.81—45.01—21.74—2.43=53.31						

A CASE OF PURPURA FULMINANS

M. L. TURNER, M. D., Des Moines

Baby R, aged eighteen months, son of healthy parents was taken sick during the night of March 5th with fever, restlessness and vomiting. Dr. W. O. Smouse was called at 8 a. m. March 6th. Parents reported that they had given laxative and enema during the night with good results. Bowels moved twice between 2 and 8 a. m. At 8 a. m. the temperature was 102½, pulse rapid and tongue coated. Some tympanites, no eruption. Calalactose was prescribed, one tablet to be given every half hour until six doses had been given and to sponge for temperature. Dr. D. W. Smouse saw the patient at 11 a. m. No change except a small amount of eruption over the face, trunk and limbs. Soon after 11 a. m. the child had a convulsion, which lasted some minutes. He had several convulsions in the next 2 or 3 hours with increasing frequency until 4 p. m. when they were almost constant. At that time the patient had a purpura of hemorrhagic type, which covered the face, entire body and limbs. Purpuric spots ranged in size from a pin head to that of a dime. The baby grew gradually worse and did not regain consciousness and died at 8 p. m. No postmortem was obtained. The diagnosis of purpura fulminans was made. Pfaundler and Schossman describe purpura fulminans as follows: "This infection, which was likewise first described by Henoch, represents an exceedingly rare, but the gravest, modifications of purpura simplex. While hemor-

rhages from mucus membranes are absent, extensive ecchymosis develop with alarming rapidity. They appear bilaterally and rather symmetrically, discoloring entire extremities within a few hours, first bluish red, then blue and black-red, and causing a coarse blood infiltration of the cutis. There is often a formation of serosanguineous vesicles upon the skin, but never gangrene, nor is there any fetid odor. The course is alarmingly rapid and always fatal; within twelve to twenty-four hours from the formation of the first blood spot, death supervenes; the longest period was four days. There are no complications, autopsy yielding a negative result with the exception of general anemia. In a few cases there are reports of a history of preceding acute infectious diseases, in others however there was a total absence of etiological indications."

UTERINE DISPLACEMENTS*

J. E. RIDENOUR, M. D., Waterloo

There has always been a controversy among gynecologists in regard to the symptomatology of uterine displacements. A certain number, on the one hand, state that a displaced uterus is always accompanied by vague or definite symptoms; while on the other hand, as large a number declare that a uterine displacement in itself does not produce symptoms, and that symptoms referable to a displaced uterus are always due to complications.

The observations I have made along these lines, have led me to cast my lot with those of the latter class, and firmly believe that an uncomplicated uterine displacement does not produce symptoms.

In corroboration of this statement I have carefully reviewed the histories of those cases having pelvic symptoms that have come under my observation during the last few years, and find that they can be divided into three general classes or groups.

Class 1. Those having no symptoms referable to a displaced uterus and in which a displacement of the uterus was found on examination.

Class 2. Those complaining of symptoms commonly attributed to a displaced uterus, and in which the uterus was found to be in normal position.

Class 3. Those having symptoms said to be due to displacement, and in which a displacement of the uterus was found.

In considering the cases belonging to the first class, those having a displaced uterus without symptoms, my observations coincide with those of Schroeder, who found that 25 per cent of women

in general, without pelvic symptoms, were found to have a displaced uterus, and as many cases were found in virgins and nullipara as in those that had borne children.

G. Winter, in his researches, finds a retrodeviated uterus in from one-fifth to one-third of all women; and also finds that the discomforts complained of are always due to complications and that a uterus in this position may exist over a number of years without calling forth any complicating condition of the genital organs or nervous system.

I believe that at least one-third of our women have some form of uterine displacement and that many of these cases are congenital or acquired early in life, by a natural adjustment of the uterus to the cavity of the pelvis while the body is developing. These cases are devoid of any annoying symptoms and would ever remain so were their attention not directed to the pelvic regions through an examination possibly for some trivial ailment. When told that a uterine displacement is present and what an awful thing it is and that it should be corrected through a surgical operation, what wonder is it that the poor woman begins at once to have pelvic symptoms which may persist notwithstanding the fact that she will sooner or later be sacrificed on the altar of someone's surgical ambition.

Just an illustrative case or two.

Case 1. Patient, a teacher, nullipara, complained of discomfort in the pelvis and abdomen with backache. A retroverted uterus was discovered and an operation performed by a very competent surgeon to correct the displacement. During the operation a diseased appendix, which I think the cause of the trouble was found and removed. The uterus, however, was not allowed to remain where nature had placed it and the round ligaments were folded and stitched. Since this time, while some of the symptoms have been relieved, the patient has never been free from pain and a dull dragging weight in the pelvis caused, no doubt, by the position of the uterus which to her is now unnatural.

Case 2. Was seen in a recent clinic. Patient a virgin, age twenty-two, had undergone ten laparotomies for pelvic trouble and the operations ceased only after the uterus with its adnexa and the appendix had all been removed, a small piece at each operation, and the patient still complained of the same old symptoms.

If any relief for these conditions is found through surgery, it is due to its psychical effect. It is rare, however, for relief to follow, and surgery is usually a positive harm to the woman.

*Read before the Austin Flint-Cedar Valley Medical Society, November, 1914

A displaced uterus causing no symptoms and a congenitally displaced one should be let alone.

There is no evidence that a displacement will cause obstruction to the circulation and later produce serious complications. Even a uterus in total prolapse may remain practically outside the vulva and cause little annoyance except in a mechanical way.

In the second class where symptoms exist with no displacement, I have found one or more of the following conditions present: lumbago, sacroiliac disease, metritis, endometritis, parametritis with adhesions, salpingitis, oophoritis and cystic ovaries, appendicitis, uterine fibroids, hemorrhoids, and gall-stones.

The symptoms complained of are these: backache, pain in region of coccyx, pain and tenderness in abdomen, pain in pelvis extending into the thighs, headache, leukorrhea, menorrhagia, metrorrhagia, amenorrhea and various nervous symptoms.

The diagnosis and treatment of this class need not be enlarged upon as it does not come under the scope of this paper.

In the third class where a displacement exists with symptoms, the complications mentioned in class two may or may not be present. The displacement that exists is due to mechanical causes, and of these causes may be mentioned the following: lacerations of the pelvic floor, subinvolution after labor or miscarriage, pressure from tumors within the pelvis, visceroptosis, and traumas. There may be other contributing factors but I think they play a small part in the production of a displacement.

For diagnosis, bimanual vaginal and rectal examination is all that is required.

Differentially, an elongated cervix may be mistaken for the body of the uterus in retroversion during rectal examination, and a fibroid nodule on the anterior or posterior surface of the uterus may be mistaken for the fundus during vaginal examination. A retroverted pregnant uterus adherent to the surrounding parts may be taken for a tumor.

The treatment is always surgical except when the displacement is due to general visceroptosis, when an abdominal binder and suitable exercise should be prescribed. A case of this kind if treated surgically should be followed by a malpractice suit. I have had no experience with pessaries in any form of displacement, and don't want any.

Lacerations of the pelvic floor should be repaired by an operation that will restore the

levator ani muscle and I prefer one of the flap splitting operations when the conditions are suitable.

As a rule if the uterus is much prolapsed or retroverted the repair of the pelvic floor is not sufficient to restore it to its normal position and some work must be done on the ligaments. The retroperitoneal shortening of the round ligaments is the operation of choice for this purpose.

This operation has been strongly advocated by Montgomery, Noble, Simpson, Ferguson, Mayo, Peters and Barrett, who have each performed it with various modifications as to technic. The most simple method is as follows:

Abdomen is opened in the median line. The round ligament of one side is brought into view and a ligature placed around it one-third the distance from the internal ring to the attachment of the ligament to the uterus. The skin is now retracted and a forcep passed through the fascia one and one-half inches from the side of the lower angle of the incision and brought through the peritoneum at the internal ring. The forceps now grasp the ligature previously attached to the round ligament and draw it through the muscle and fascia bringing the ligament with it. The ligament of the opposite side is treated in the same manner and then both ligaments are drawn forward until the uterus is in position. The ligaments are now attached either above or beneath the fascia and the abdomen closed in the usual manner.

This operation is the only one that I consider perfect as it leaves all organs within the pelvis in normal relation to each other.

I have never performed the Alexander operation, as it is indicated only in uncomplicated retrodisplacement, and I do not operate if this condition alone is present.

For a complete prolapse especially in a patient advanced in years, nothing short of a fundus amputation and attachment of the cervix to the abdominal wall will give relief.

Flexions of the uterus if slight need no treatment except possibly dilatation by means of sounds. If exaggerated they should be considered as anomalies and treated as the case requires.

In conclusion will say that as this paper is merely an attempt by the author to report some of his own observations, it could not be expected to cover the subject. It is hoped, however, that the discussion will be ample to make up the deficiency.

A. J. COLE, M. D., Britt

Mr. President and Gentlemen of the Austin Flint-Cedar Valley Medical Association. The object of this paper is not to express any new or untried theory of diagnosis or treatment of tuberculosis but rather to take the conditions as they are today in Iowa and try to emphasize where we have failed with tuberculosis and try to point out some ways that I hope, with your aid may help to eliminate this disease. From the best statistics we have there are 1,500 deaths each year in Iowa from tuberculosis. Now listen as I wish to give you some figures, 75 per cent of cases are supposed to be cured or at least arrested and die from other causes than that of tuberculosis. That would make 6,000 who all the time are afflicted in Iowa with tuberculosis, that means sixty in each county or in round numbers four in each township, who are continually spreading the germs that cause this preventable disease.

Dr. H. V. Scarborough, of Oakdale Sanatorium, tells us:

We do not make our diagnosis early enough for good results in treatment, and I think he is right. He also says, in his report to the Board of Control: "We are not getting the results in treatment and prevention of tuberculosis that we should have, considering the status of work elsewhere, for the large statistics collected and the amount of literature sent out. In fact the very nature of the disease is as yet poorly understood, in that while we define it as a chronic disease, we commonly diagnose it by the acute stage, forgetting the fact that the great bulk of cases are not acute, and that very many never get to be acute. The average case is the latent case, or at the least the semi-active case. The acute case is the neglected later stage case. It will be argued that it is not only very difficult to detect the latent case but mistake would make much confusion and many cases would be needlessly alarmed. However, if we do not diagnose earlier we will continue to find that a large percentage of our cases are already beyond help when they are diagnosed."

So diagnosis before or very early after the tubercule bacilli is found in the sputum is of great importance. How will you be on the safe side? You in active practice, have not the time if you have the skill, to examine the sputum every two weeks, which is necessary in those cases.

The State of Iowa furnishes a department under Dr. Albert of Iowa City with a good staff to aid you in this work and it is not only your right but your duty to use his department for every case of cough and expectoration that lasts over two weeks and does not respond to ordinary

treatment, and doubly so if the patient should show one or more of the physical signs of tuberculosis. As every patient who has developed tubercule bacilli in the sputum is a "carrier" and spreader of this disease, should be isolated in some way and prevented from infecting the general public. How will we obtain this object? The only way I can see is isolation in district sanitariums as the counties are too small with few exceptions in Iowa to support such an institution, but we could use six or eight of such institutions with wonderful benefit to the public health.

Now gentlemen, here is the only point I wish to make, and no law can be enforced and be efficient, above the sentiment of the general public. My dear doctors, it is your opportunity above all citizens of Iowa, to make that sentiment a real fact. Use your own method, but do not forget. I must tell you how I have worked in my last few confinement cases. After staying what time is necessary after delivery of child I suggest to the father. We must drink the health of the new born. If parties are prohibitionists I take ice water, if otherwise, I do the Roman act. Now I tell them in a little toast that they can beyond a reasonable doubt protect their baby and the whole family from tuberculosis infection by paying about 50c to \$1.00 on a quarter section of land each year to build and support state sanitariums for those unfortunate victims who sow broad cast over the state the germ that causes this disease, and I generally win the mother's favor complete and dad sits up and takes notice.

Recapitulation.

1. Do our best for earlier diagnosis, by use of state bacteriologist.
2. Educate the public, so they will demand protection from tuberculosis.
3. Isolation in public district sanitariums. 1st for the good of the patient. 2nd for the public good.

CASE REPORT—URETERAL KINK

A. J. FARNHAM, M. D., Waterloo

Mr. E., aged twenty-six, married, was seen first on August 28, 1914.

Family History—One brother died of tuberculosis. Otherwise negative as to tuberculosis and cancer.

Personal History—During childhood had measles, whooping cough, and an arthritis of the right knee at the age of twelve, lasting two months.

In 1911 he stepped off a river bank in the dark, falling about ten feet and injuring his back on the right side in the lumbar region. He con-

sulted a physician and it was several weeks before the pain and soreness left this part of his back. The following year he had an appendectomy. He made an uneventful recovery from the operation itself but his general health could not be considered as up to par at any time since then as he felt tired and languid with an indefinite discomfort in the region of the right kidney all of this time. Late in 1912 his parents sent him on a trip to Europe hoping thereby to benefit his health. The bowels were always regular until the past twelve months or so.—Urination quite normal.

On the evening of August 27th while scuffling slightly with a child, a pain started in the right lumbar region and was so severe that he was compelled to lie down for two hours. He then got up and drove his car twenty-two miles to his own home. I was called to see him at 5:00 a. m. the following morning (August 28th), his wife saying that he had lumbago and I found that he had had pain all night and had vomited frequently. The pain was in the region of the right kidney and radiated downward and forward to the glans and right testicle. The pulse was 68; temperature 99.5. The fist percussion over right kidney gave a typical response. Inversion of the patient gave no relief and a second $\frac{1}{4}$ gr. of morphine was required to relieve the pain.

At noon the patient was seen again when a distinct swelling in the right flank could be seen. A white blood count was made showing 19,300 leucocytes and a specimen of urine obtained showing a few red blood cells, a small amount of albumen, but no pus cells, sugar, or casts.

The patient remained fairly comfortable until August 30th when the pain became so severe as to again require morphine. The following day also several hypodermics were given.

On September 1st Dr. Jennings Crawford of Cedar Rapids made a cystoscopic examination. The orifice of the right ureter had a pointed appearance. The functional test for each kidney for fifteen minutes was: right 13 per cent; left 6 per cent.

A pyelogram of the right side was then made showing a marked kink of the ureter two inches from the renal pelvis with a distinct constriction at the first angle.

At operation, which was deferred twenty-four hours owing to the exhausted condition of the patient, even with gentle manipulation the dilated portion of ureter ruptured and the wound filled with collargol solution. Plastic work would have been ideal but owing to the friable condition of the upper portion of the ureter, was impracticable.

The kidney was removed and the patient made a good recovery and now makes the statement that he feels better than he has for over two years.

The quantities of urine in ounces passed each twenty-four hours from the second until the eleventh day after operation were: 19, 30, 28, 38, 33, 30, 24, 21, 56 and 60.

A LAW AGAINST DIVISION OF FEES

The Kansas Senate has passed unanimously a bill prohibiting surgeons paying commissions to physicians who may send patients to them, or advise patients to go to them for treatment or operations. However, the bill specifically states that it shall not be unlawful for the attending physician to receive a fee from the surgeon or specialist for services actually performed in case the patient is informed in advance as to the amount of the fee which the physician is to receive.

GRENFELL'S WORK IN LABRADOR

Anything connected with the International Grenfell Association will be of interest. We take from The Journal of the American Medical Association the following note:

At the annual meeting of the International Grenfell Association held in New York, April 13th, a broadening of the scope of the mission work among the fishermen of Labrador was indicated. During the last year the hospitals and missions of the association treated 7,345 patients, and \$66,839 was expended for medical and mission work.

ANTI-TYPHOID INOCULATION

The value of anti-typhoid inoculation is demonstrated by the figures issued by the Canadian Pacific Railway Company. The vaccine has been supplied to employees free of charge and in 1914, 11,772 employees were inoculated; out of this number only four contracted the disease, one of whom died. On the other hand sixty-two cases developed amongst those who had refused inoculation and nine of these resulted in death. In the Alberta division eleven cases of the fever developed among thirty-five men who had not been vaccinated.—(The Canadian Medical Association Journal.)

Dr. D'Orsay Hecht, President of the Mississippi Valley Medical Association in 1914, died suddenly from angina pectoris, at his home in Chicago, February 16th, at the age of forty-one. He was associate professor of nervous and mental diseases in the Northwestern University Medical School from which he graduated in 1898, and was a well known writer on subjects connected with his specialty.

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STATE MEDICAL SOCIETY 1915-16

The Iowa State Medical Society commences the year 1915-16 with some change in the operation of the Constitution insofar as it relates to the election of President. When the A. M. A. adopted the plan of electing a President one year before his term of office would really commence, and demonstrated thereby the advantages of having a man in training to preside over the affairs of the great organization, state medical societies began to feel the advantages of following the same plan. It is coming more and more to be realized that the state medical society is to fill a more important relation to the profession than in the past, and therefore that the election of officers should be more nearly based upon merit and ability than as a compliment, to useful and respected members. It is for this reason that one medical society after another amended its constitution so as to provide for a President-Elect who should come into office a year after his election. It appears to us that the House of Delegates recognized what we are saying in its action in passing the amendment and in filling the offices thus provided for.

Dr. Small who has served the State Society as Treasurer, as long as most of us can remember, has not only been a safe and efficient officer, but he has closely guarded the interests of the Society, both financially and otherwise. It may be contended that a full treasury is not necessarily the best evidence of the Society's working usefulness, but a safely guarded treasury that has

provided means for a most progressive and enlightened policy, shows that the man who had charge of it was always a safe man to guide the affairs of an organization. We feel sure that we cannot excite any controversy when we say that Dr. Small's administration of the finances of the Society has been both liberal and conservative.

The President-Elect, Dr. J. F. Herrick of Ottumwa, is well known in Iowa as a most enterprising student of his profession, and a man influenced by the highest ideals in relation to professional conduct, and that he stands for the very best in the profession, a man of firmness and character, and against whom we have never heard a word of blame raised.

It is with the greatest satisfaction that we also note the re-election of Dr. Osborn as Secretary of the Society. The Doctor during the three years of his incumbency has worked as if his entire professional and business future rested upon bringing the best ideals of management into the affairs of the Society. It is quite probable that every man who could be seriously considered as a candidate for the position of Secretary, would have methods of his own, and it would require a year or two to get them into full operation. This is expensive and a blow to efficiency. When a man occupies a position like that of Secretary of a medical society, his term of office ought to be extended to the limits of efficiency, and thereby save a year or two of readjusting to develop the Secretary's individual ideas of reckoning.

We all regret the necessity of raising a larger balance to be used by the Defense Committee. In order to accomplish this the House of Delegates made an assessment of \$1.00 for one year. The Committee goes into the next year with a balance in its favor of about \$900.00. It is possible and even probable that this would be more than exhausted before the 1916 annual dues could be made available. The Committee is of the opinion that unless something entirely unexpected happens, that the balance will carry us well into the middle of the 1916 year. About once in three years we are called upon to expend an unusual amount of money for medical defense, so that about one year in three there comes a general closing up of a considerable number of cases that have been pending. In 1914-15 a considerable number of cases that had been accumulating, were disposed of. It will be remembered that in 1911-12 the same thing happened. We cleaned up a considerable number of cases, and our expenses for 1911-12 were large. Then for 1912-13 and 1913-14 they were comparatively small, and we not only paid up our indebtedness for 1911-12

but accumulated a substantial surplus which carried us through the exigencies of 1914-15, leaving us a balance of about \$900.00.

THE SIXTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION.

The session of the American Medical Association just concluded at San Francisco, recorded the smallest attendance in several years. The general consensus of opinion was that the meeting was disappointing as to the attendance and as to the interest manifested.

It has been proven by much experience that meetings of the Association held in connection with expositions, suffer in consequence of the many diversions incident to a fair. This would be particularly true in San Francisco where every energy was bent to making the great Exposition a success. California people never do things by halves, and therefore it might be expected that many things were offered to sight-seers who would be easily drawn from the scientific work to see the things that might never be seen again.

It can be said for the local committee that no effort was spared to entertain the visiting members of the profession and their families. The Civic Center where the meetings were held, is a grouping of municipal buildings, and in the particular instance, the meeting place. Rooms of sufficient size were provided for all the sections and the House of Delegates under the same roof. There was some trouble in the larger sections to hear well on account of the peculiar form of the rooms which were long and rather narrow. An innovation which excited some criticism was the devoting of the second day to general discussions of matters outside of the regular program, and it was generally felt that it was unfortunate to have this break occur. Of the 2,100 names registered, two-thirds were said to have come from the Pacific Coast, and a very large number of our foremost men who have figured so largely in previous meetings, were absent.

The meetings of the House of Delegates were harmoniously conducted, and very little ill-feeling developed. There was some controversy over the election of President. Dr. W. W. Grant who has been so long an efficient worker in the Association, and particularly as a member of the Board of Trustees, was defeated by Surgeon General Rupert Blue of the United States Marine Hospital Service.

The work that Surgeon General Blue did a few years ago in stamping out bubonic plague in

San Francisco, and the work he has done in preventive medicine, especially recommended him to the high office. The election of the Chicago member of the Board of Trustees engaged the close attention of the House of Delegates, and Dr. M. L. Harris of Chicago was elected to succeed himself. It seems that the Illinois delegation presented a candidate who apparently received the vote of the delegation of his own state. Dr. A. J. Ochsner's name was presented, but the vote in his favor was not large, not because of any objection existing to Dr. Ochsner, but because of the fact that the A. M. A. is at the present time defendant in suits exceeding \$1,000,000.00, instituted by patent medicine houses who have been seriously offended at the attitude taken by the Association, which move has been detrimental to their interest, and has led to the institution of many suits for damages, particularly by the proprietor of the Wine of Cardui. Dr. Harris's long familiarity with the work of the Board of Trustees, and the intimate knowledge of the situation made it seem wise at this time to re-elect him in order to more efficiently carry the Association through the trials that are upon us at the present time.

DR. J. H. HONAN AT SHAWNEE-ON-DELAWARE

Dr. J. H. Honan for many years practiced at Nauheim, Germany, and was well known on account of his studies of the effects and therapeutic value of the Nauheim baths, and also for other contributions, particularly a small hand book known as "Medical Europe." The members of the profession that met Dr. and Mrs. Honan at Nauheim, especially members of the famous 1913 study-tour, will easily call to mind the many courtesies received at their hands. We are quite sure that a most friendly feeling will exist touching their success in their new locality. Buckwood Park which is located on the Delaware, lies partly in Pennsylvania and partly across the Delaware in New Jersey, and is one of the most beautiful spots in America. The village is known as Shawnee-On-Delaware, and affords facilities for a place of rest and recreation. Dr. Honan is prepared to give the Nauheim baths with which he is so familiar from his long practice at Nauheim, Germany. The war in Europe has so disturbed conditions, that physicians at watering places, engaged in special lines of work, would find but little to occupy their time. For this reason Dr. and Mrs. Honan have taken up their residence as above stated, at Shawnee-On-Delaware.

We abstract the following note from Dr. Osler's letter to The Journal of the American Medical Association of May 1st:

So far as England is concerned, the most remarkable feat of the war has been the transportation, the organization of which has been thorough and efficient. A just tribute was paid to it in the House of Commons recently, when emphasis was laid on the fact that thousands, now hundreds of thousands, of troops have been moved silently and quickly without loss of life across the channel and from distant parts of the empire. The transport of the wounded has also been very thoroughly arranged, and I was glad during my visit to witness the arrival of a new group of patients. Word came that the Red Cross train was due at Paignton station about 3:30. On the platform the ambulances for the cot cases and various conveyances for the others were in attendance. A group of Boy Scouts arranged the stretchers and a detachment from the Royal Army Medical Corps, in training near by, was lined up to act as bearers. Nothing could be more admirable than the ease with which the wounded were handled. Within an hour from the arrival of the train all the patients were in bed, though among them were thirty cot cases requiring careful treatment. The men had come from the battles about Neuve Chapelle and had been transferred through Boulogne and Southampton.

The personnel of the hospital has changed slightly since my last letter. Dr. Eastman has gone to a hospital at Pau, France, and Dr. Shaw and Dr. Leonard have returned to America. Dr. Hinds, who is second in charge, is leaving shortly for the queen of the Belgians Hospital, Lapanne. The present staff is: Dr. Howard Beal of Harvard and Worcester, Mass.; Dr. R. W. Hinds of Harvard and Buffalo; Dr. Fitzsimons, New York and Kansas; Dr. W. G. Crumley of Rochester, Minn. (Mayo Clinic); Dr. Gilcreest of Gainesville, Texas, and of the Johns Hopkins; Dr. Stowers of Millersburg, Mo., of the Johns Hopkins, and of the Royal Victoria Hospital, Montreal, and two new men are expected, Dr. Dykes from Georgia and Dr. Lange from Rhode Island.

Under the head of typhoid fever we note the following gratifying results from precautions against the disease which in the past has so seriously afflicted armies in the field:

It is very gratifying to have got through seven months of the war without a single serious outbreak of typhoid fever. There has been very little in the camps in England, and the entire cases abroad have never been more than from 150 to 200 at a time in the entire force. There has been a constant fight with the "anti's," who have been very active in circulating most pernicious literature, but in spite of their efforts 99 per cent of the men have been vaccinated. It is interesting that a number of cases returned from the front have been paratyphoid, and I would like to refer bacteriologists interested in the subject to the papers by Dreyer and his colleagues at the Oxford Pathological Laboratory, which ap-

peared in the Lancet of this year, in which they describe certain new methods for the detection and identification of the typhoid and paratyphoid bacilli.

TRANSACTIONS OF THE HOUSE OF DELEGATES, IOWA STATE MEDICAL SOCIETY

Sixty-fourth Annual Session, Waterloo, Iowa, May 12, 13, 14, 1915

FIRST MEETING, WEDNESDAY EVENING, MAY 12, 1915

The House of Delegates held its first meeting in the lecture room of the Grace M. E. Church, being called to order by the President, Dr. H. C. Eschbach. Roll call showed the presence of sixty-nine members.

The Secretary, Dr. J. W. Osborn read his annual report, which upon motion was received and placed on file.

Secretary's Report

Your Secretary begs leave to submit the following report:

The total membership for 1914 was 2,061; for 1913, 2,019, and for 1912, 2,000. The 1915 dues from 1,911 members have been received so far this year.

Hancock and Winnebago county medical societies have united and are applying for a new charter under the name—"Hancock-Winnebago County Medical Society." I recommend the granting of this charter.

The following orders have been issued since my last report:

No.		
561	The Press Co., Journal, April, 1914.	\$ 242.33
562	Wolfe & Wolfe, medico-legal services, bill of April 9, 1914.	50.00
563	Berry & Watson medico-legal services, bill of April 19, 1914.	100.00
564	L. W. Dean, expenses and postage, president's office	28.10
565	L. W. Littig, expenses committee medical education	23.32
566	J. W. Osborn, six months salary and expenses	469.28
567	G. E. Crawford, councilor's expense. . .	3.00
568	Sanders' Engraving Co., St. Louis, bill April 25 and May 1, 1914.	53.27
569	T. M. Throckmorton, councilor's expense	19.87
570	E. E. Evans Co., programs 1914 session	21.25
571	Woodford & Ainsworth, badges and pins 1914 session.	13.00
572	H. C. Eschbach, councilor's expense. . .	2.70
573	W. B. Small, salary and office expenses	198.65
574	J. W. Cokenower, councilor's expense	4.00
575	C. A. Boice, advertising manager and miscellaneous expenses	98.42
576	D. N. Loose, councilor's expense.	12.35
577	G. C. Moorehead, councilor's expense. .	11.00
578	J. W. Osborn, registration Sioux City meeting	18.00

579	Standard Photo Engraving Company, cuts for June, 1914 Journal.....	19.03	611	Edward S. White, Harlan medico-legal services	25.00
580	The Press Co., June Journal, 1914...	319.59	612	Birdsall & Birdsall, Clarion, medico-legal services	50.00
581	The Press Co., May Journal, 1914.....	291.32	613	Wade, Dutcher & Davis, medico-legal services Oct., Nov., Dec., 1914 and Jan., 1915	1,271.00
582	Wade, Dutcher & Davis, medico-legal services April, May and June.....	1,928.21	614	J. W. Osborn, salary Aug., 1914 to Feb., 1915, postage and office expenses.....	469.52
583	D. S. Fairchild, Editor's salary April, May and June, 1914.....	375.00	615	D. H. Bowen, expense trustees' meeting Nov., 1914 and Feb., 1915.....	36.00
584	E. E. Dorr, Aug., Sept. and Oct., 1914, payments on Iowa Medical Journal....	300.00	616	D. S. Fairchild, Editor's salary Oct., Nov. and Dec., 1914.....	375.00
585	Dr. Henry Albert, expenses model laboratory at Sioux City.....	129.82	617	E. E. Dorr, April payment Iowa State Medical Journal	100.00
586	Thos. F. Duhigg, telephone expense to county secretaries, amend auto laws...	66.33	618	J. H. Welch Prtg. Co., March, 1915 Journal and reprints.....	292.60
587	Luella Nash, reporting, transcribing and expense Annual Session Sioux City	100.66	619	D. S. Fairchild, Editor's salary Jan., Feb. and March, 1915.....	375.00
588	Sanders Eng. Co., cuts for Journal, per bill June 23, 1914.....	10.70	620	E. E. Dorr, May payment Iowa State Medical Journal	100.00
589	Standard Photo Eng. Co., cuts for Journal per bill June 23, 1914.....	45.00	At present there is no provision for bonding the Secretary. I recommend that he be placed under the same bonds as the Treasurer which should be \$10,000 instead of \$5,000.		
590	J. W. Osborn, office expense, secretary and salary, May 15 to Aug. 15, 1914..	203.42			
591	D. H. Bowen, expense attending Sept., 1914 trustees' meeting.....	26.72	The Trustees have made the following changes in the Journal: Beginning with the January, 1915 issue of our Journal, the size of the page was enlarged to 8x11 inches and the place of publication was changed from Washington, Iowa, to Des Moines, Iowa, and your Secretary was made business manager. The advertising rates had always been too low and when the size of the page was enlarged the rates were increased to correspond with those of other state journals. The increase amounted to about 50 per cent and notwithstanding the increase in price the amount of advertising has not appreciably decreased. We have not as yet been able to increase the rates on all of our advertisements because some of the old contracts have not yet expired but as soon as a contract expires the new rate goes into effect.		
592	J. N. Warren, expense attending Sept., 1914 trustees' meeting.....	29.40			
593	The Press, The Journal, July, Aug. and Sept., 1914	781.94	The gross value of our advertising has been		
594	E. E. Dorr, Nov. payment for Iowa Medical Journal	100.00			
595	Sanders Engraving Co., cuts for Jan., 1914 Journal	19.56	January, 1915	\$222.10	
596	D. S. Fairchild, Editor's salary July, Aug., Sept., 1914.....	375.00	February, 1915	237.08	
597	Standard Photo Co., Chicago, cuts in recent issues	4.90	March, 1915	257.94	
598	The Press Co., Journal, Oct., 1914.....	226.00	April, 1915	262.44	
599	E. E. Dorr, December payment on Iowa Medical Journal.....	100.00	May, 1915	293.58	\$1,273.14
600	E. E. Dorr, January, 1915 payment on Iowa Medical Journal.....	100.00	The gross value of the December, 1914 advertising was \$197.63. This is the first year that the Journal has not been optional and I think it has had very little effect upon the membership.		
601	Wade, Dutcher & Davis, partial payment bill medico-legal, services dated Oct. 7, 1914 and allowed Nov. 25, 1914	500.00			
602	E. E. Dorr, February payment Iowa Medical Journal	100.00	The report of the Treasurer, Dr. W. B. Small, was read, and upon motion referred to the finance committee.		
603	E. E. Dorr, March payment Iowa Medical Journal	100.00			
604	Wade, Dutcher & Davis, balance bill October 7, 1914.....	520.48	Treasurer's Report		
605	The Press Co., November and December Journals, 1914.....	480.91			
606	J. H. Welch Prtg. Co., Des Moines, Jan. and Febr. Journal, 1915.....	524.60	Your Treasurer begs leave to submit the following report for the year, May 1, 1914 to May 1, 1915.		
607	J. H. Welch Prtg. Co., job work and reprints	153.65			
608	Standard Photo & Eng. Co., cuts for Journal per bill Nov. 25, and Dec. 8, '14	4.36	May 1, 1914, balance on hand...\$4,562.52		
609	Chase & West, fire proof safe and filing cabinet, Secretary's office.....	157.20			
610	Lane & Waterman, Davenport, medico-legal services	200.00			

No.					
561	May 4, The Press Co., Washington, Ia., printing Journal for April.....	\$ 242.33	589	Sept. 26, Standard Photo Engraving Co., cuts for Journal, bill of June 23, '14	45.00
562	May 11, Wolfe & Wolfe, medico-legal services	50.00	590	Sept. 26, J. W. Osborn, Sec'y., salary and expense May 15 to Aug. 15.....	203.42
563	May 22, Berry & Watson, medico-legal services	100.00	591	Sept. 26, D. H. Bowen, trustee, expenses	26.72
564	May 22, Pres. L. W. Dean, postage....	28.10	592	Sept. 26, J. N. Warren, trustee, expenses	29.40
565	May 22, L. W. Littig, Ch'm expenses of com. on medical education.....	23.32	593	Sept. 26, The Press Co., Washington, Ia., printing Journal, July, August and September, 1914	781.94
566	May 22, J. W. Osborn, Sec'y, salary and expenses for 2nd and 3d quarter..	469.28	594	Nov. 12, E. E. Dorr, November payment on Iowa Medical Journal contract	100.00
567	May 22, G. E. Crawford, councilor expenses	3.00	595	Dec. 3, Sanders Engraving Co., cuts for January Journal	19.56
568	May 22, Sanders Engraving Co., as per bill	53.27	596	Dec. 3, D. S. Fairchild, Editor, salary for July, Aug. and Sept., 1914.....	375.00
569	May 22, T. W. Throckmorton, councilor expenses	19.87	597	Dec. 3, Standard Photo-Engraving Co., cuts for Journal.....	4.90
570	May 22, The E. E. Evans Co., programs, as per bill.....	21.25	598	Dec. 3, The Press Co., Washington, Ia., printing Journal, October, 1914.....	226.00
571	May 22, Woodford & Ainsworth, badges and pins, as per bill.....	13.00	599	Dec. 3, E. E. Dorr, December payment on Iowa Medical Journal contract	100.00
572	May 22, H. C. Eschbach, councilor expenses	2.70		1915	
573	May 22, W. B. Small, Treasurer salary and expenses	198.65	600	January 8, E. E. Dorr, January payment on Iowa Medical Journal contract	100.00
574	May 22, J. W. Cokenower, councilor expenses	4.00	601	Jan. 8, Wade, Dutcher & Davis, medico-legal service, payment on July, Aug. and Sept. account.....	500.00
575	May 22, C. A. Boice, councilor expenses and percentage as adv. mgr., as per bills	98.42	602	February 3, E. E. Dorr, February payment on Iowa Medical Journal contract	100.00
576	May 27, The West Hotel to C'go draft No. 99,894, space for exhibitors.....	50.00	603	March 2, E. E. Dorr, March payment on Iowa Medical Journal contract....	100.00
577	July 2, D. N. Loose, councilor expenses	12.35	604	March 8, Wade, Dutcher & Davis, medico-legal service, balance of July, Aug. and Sept. account.....	520.48
578	July 2, G. C. Moorehead, councilor expenses	11.00	605	March 8, The Press Co., Washington, Ia., printing Journal Nov. and Dec., '14	480.91
579	July 2, J. W. Osborn, Sec'y., Sioux City, registration expenses.....	18.00	606	March 8, J. H. Welch Prtg. Co., printing Journal Jan. and Feb., 1915.....	524.60
580	Aug. 17, Standard Photo Eng. Co., cuts for Journal, June, 1914.....	19.03	607	March 8, J. H. Welch Prtg. Co., job printing as per bills.....	153.65
581	Aug. 17, The Press Co., Washington, Ia., printing Journal for June, 1914...	319.59	608	March 8, Standard Photo Eng. Co., cuts for Journal as per bill.....	4.36
582	Aug. 17, The Press Co., Washington, Ia., printing Journal for May, 1914....	291.32	609	March 8, Chase & West, fire proof safe and filing cabinet for Secretary's office	157.20
583	Aug. 17, Wade, Dutcher & Davis, medico-legal services for April, May and June, 1914	1,928.21	610	March 8, Lane & Waterman, medico-legal service, as per bill.....	200.00
584	Sept. 10, D. S. Fairchild, Editor, salary for April, May and June, 1914.....	375.00	611	March 8, Edward S. White, medico-legal service as per bill.....	25.00
585	Sept. 10, E. E. Dorr, payment on Iowa Medical Journal contract for Aug., Sept. and Oct., 1914.....	300.00	612	March 8, Birdsall & Birdsall, medico-legal service as per bill.....	50.00
586	Sept. 26, Henry Albert, expense of model laboratory exhibit, Sioux City meeting	129.82	613	March 8, Wade, Dutcher & Davis, medico-legal service for Oct., Nov. and Dec., 1914	1,271.00
587	Sept. 26, Thos. F. Duhigg, Ch'm legislation com. expense.....	66.33	614	March 8, J. W. Osborn, Sec'y., salary and expenses Aug. 15 to Feb. 15, 1915..	469.52
588	Sept. 26, Luella Nash, stenographer, reporting and transcribing Sioux City meeting	100.66	615	March 16, D. H. Bowen, trustee, expenses as per bill.....	36.00
	Sept. 26, Sanders Engraving Co., cuts for Journal, bill June 23, 1914.....	10.70	616	March 20, D. S. Fairchild, Editor, salary for Oct., Nov. and Dec. 1914....	375.00

617	April 3, E. E. Dorr, April payment on Iowa Medical Journal contract.....	100.00	
618	April 27, J. H. Welch Prtg. Co., printing March, Journal and March reprints	292.60	
619	April 27, D. S. Fairchild, Editor, salary for Jan., Feb. and March.....	375.00	
620	April 27, E. E. Dorr, final payment on Iowa Medical Journal contract....	100.00	
	April 30, interest for the year..\$	89.61	
	April 30, Journal receipts for the year	1,726.53	
	May 27, 1914, exhibit space receipts, Sioux City meeting....	75.00	
	April 30, membership dues for the year	8,898.00	
	April 30, disbursements for the year	\$12,806.46	
	April 30, balance on hand.....	2,545.20	
		\$15,351.66	\$15,351.66

Medico-Legal Fund Statement			
	May 1, 1914, balance on hand....\$	737.96	
	April 30, 1915, medico-legal services for the year.....	\$4,644.69	
	April 30, 1915, medico-legal fund, receipts for the year.....	4,872.00	
	April 30, 1915, balance on hand...	965.27	
		\$5,609.96	\$5,609.96

Journal Statement			
	May 30, 1915, receipts from advertisements and all other sources except subscriptions	\$1,726.53	
	May 30, 1915, subscription receipts, May 1, '14 to May 1, '15..	2,398.00	
	April 30, 1915 expense of Journal, May 1, 1914 to May 1, 1915.....	\$4,969.76	
	April 30, 1915, deficit.....	845.23	
		\$4,969.76	\$4,969.76

To Whom it May Concern:

We hereby certify that Dr. W. B. Small, Treasurer of the Iowa State Medical Society has Twenty-Five Hundred Forty-Five and 20/100 Dollars (\$2,545.20) on deposit in this bank payable on demand and subject to check.

Yours very truly,

H. E. RUGG, Asst. Cashier.

The report of the Council was read by Dr. C. A. Boice, Secretary of the Council, and upon motion was received and placed on file.

REPORT OF THE COUNCIL

First District—C. A. Boice, Councilor.

Seven counties in this district report 136 members with an eligible list of 228. Interest and society work is reported about as last year. Louisa county is planning to have a meeting in June.

Second District—Henry Albert, Councilor.

Six counties report 186 members with 255 eligibles. Average attendance in all is ninety-eight. Two counties report good interest, three fair and one poor.

Third District—J. C. Powers, Councilor.

Fourth District—Paul E. Gardner, Councilor.

Fifth District—G. E. Crawford, Councilor.

Membership in this district has increased from 198 to 209. Linn county shows an increase from 77 to 101. The interest in this county, as would be expected from the increase in membership, has been very active. There is not much change in the rest of the district.

Sixth District—J. F. Herrick, Councilor.

Seven counties in this district report 162 members out of a possible 240. Interest is reported good in three; fair in three and poor in one. Wapello county held seventeen meetings during the year, with an average attendance of fifteen. Here interest is exceptionally good. Mahaska county held twenty meetings; Jasper county, one; Poweshiek, three; Davis, six; Keokuk, four; Monroe four the past year. Two deaths were reported. Dr. Paul Koepfer, of Baxter, and C. E. Boyd, of Newton.

Seventh District—C. W. Cornell, Councilor.

The seven counties in this district report eligibles 372 with a membership of 282. Interest manifested in one is excellent; three good and two fair. Thirty-one regular meetings and four called meetings were held. Two deaths were reported. Dr. Henry S. Baron, of Pella, and Dr. John D. McCleary, of Indianola. Polk county reports 178 eligible doctors with a membership of 175.

Eighth District—J. F. Aldrich, Councilor.

This district reports a total membership of 161. Six counties report good interest; two, fair; three, poor. One secretary reports that it takes lots of hard work to keep things going. Of course it does. What is a secretary for?

Ninth District—A. L. Brooks, Councilor.

The ninth district reports as sent are very incomplete. One county not giving number eligible to membership or members at present, except to state that it is about the same as last year. Audubon county reports four meetings within the year with good interest. Others report one or two meetings with interest fair or poor. Guthrie county, although belonging with the ninth district has a joint society with Dallas and reports in the seventh district. One death is reported, Dr. Smith Bellinger, of Council Bluffs.

Tenth District—M. J. Kenefick, Councilor.

Eight counties out of fourteen report a membership of 134 out of 192 eligible. Hancock county and Winnebago county societies have merged to form one society. The Hancock-Winnebago County Medical Society. Two deaths are reported from this district. Drs. J. C. Bridgeman and J. D. Wallace both of Pocahontas county.

Eleventh District—G. C. Moorehead, Councilor.

Eleven counties report 188 eligible physicians. Members last year 150. Admitted twelve. Dropped seventeen. Present membership 145. Number of meetings held thirty-eight. Average attendance six and six-tenths. Two deaths have occurred in this district. Dr. R. L. Cleaves, of Cherokee, and Dr. B. S. Louthan, of Sutherland. General interest in the meetings fair. The counties of Lyon, Osceola, O'Brien and Sioux have united to form a district society. These counties have an eligible list of sixty-nine of which fifty-six are now members.

It is the desire of this society to be recognized by the State Society in such a manner as to make it a component society. The meeting held April 15th to organize a district society was attended by thirty-five physicians, and they believe that their future meetings will be well attended, that a real scientific interest will obtain and that a closer fellowship will result and the profession be broadened and benefitted by the permanent establishment of this society.

In summing up these reports, we say again as we have said before that it all depends on the secretary. If there is but one good man in the county, he should be the secretary; if another, he should be the delegate, and if perchance there should be three, the third should be the president. The secretary and the delegate should be sentenced to office for life or during good behavior. It is only by earnest, continuous and unremitting toil that any society can and will keep up to the mark and the secretary is the man to handle the helm.

The report of the medico-legal committee was presented by Dr. D. S. Fairchild, chairman, and upon motion was received, placed on file.

REPORT OF THE MEDICO-LEGAL COMMITTEE

Twenty-four cases have been begun since the date of our last report. This is nine more cases than have been begun in any other year since the organization of the defense. Eight of these cases, however, have already been disposed of.

During the year, we have disposed of eighteen cases which is more cases than have been disposed of in any one year and leaves a total of twenty-eight cases pending, being an increase of seven over last year and two over the year before and three over the preceding year.

The following is a summary of the expense of medico-legal defense since its inauguration in 1908:

Wade, Dutcher & Davis	Local Attorneys	Total
1908-09.....\$ 795.18	\$ 140.22	\$ 935.40
1909-10..... 1,991.86	392.25	2,384.11
1910-11..... 2,106.59	25.60	2,132.19
1911-12..... 4,239.65	360.00	4,599.65
1912-13..... 2,730.54	625.00	3,355.54
1913-14..... 2,587.27	508.45	3,095.72
1914-15..... 4,554.54	475.00	5,029.54
<hr/>	<hr/>	<hr/>
\$19,005.63	\$2,526.52	\$21,532.15

Wade, Dutcher & Davis.....	\$19,005.63
Local Attorneys	2,526.52

Total.....\$21,532.15

Condensed Report of Cases Against Members of the Iowa State Medical Society

Cases commenced since organization of department	99
Cases commenced prior to the report of 1909....	15
Cases commenced during 1909-1910.....	13
Cases commenced during 1910-1911.....	10
Cases commenced during 1911-1912.....	14
Cases commenced during 1912-1913.....	13
Cases commenced during 1913-1914.....	10
Cases commenced during 1914-1915.....	24
Cases pending at date of 1909 report.....	7
Cases pending at date of 1910 report.....	10
Cases pending at date of 1911 report.....	14
Cases pending at date of 1912 report.....	25
Cases pending at date of 1913 report.....	26
Cases pending at date of 1914 report.....	21
Cases now pending.....	28
Total cases disposed of.....	72

Nature of Cases

Malpractice in removing seed wart.....	1
Malpractice in not discovering and uniting severed ligaments of the wrist.....	1
Alleged assault	2
Removal of cancer of the hand.....	1
Conspiracy to have plaintiff declared insane.....	1
Fracture of arm.....	19
Fracture of leg or femur.....	27
Appendicitis—sponge case	1
Operation for kidney—sponge case.....	1
Appendicitis—malpractice in operation.....	2
Appendicitis—exploratory opening	1
Child birth, alleged failure to attend after alleged agreement to do so; child died (separate action by father and mother).....	2
Hand crushed, alleged improper treatment.....	1
Eye, alleged improper treatment.....	1
Infection, childbirth	2
Medical treatment of child.....	1
Abortion, improper after-treatment.....	3
Abortion, without justification.....	1
Improper treatment of nail puncture in foot.....	1
Alleged removal of wrong kidney.....	1
Stomach trouble, alleged improper treatment and failure to treat.....	1
Anesthetic, death under.....	1
Improper diagnosis of diphtheria.....	1
Improper diagnosis of broken ribs.....	1
Removal of uterus, alleged negligent incision of the bladder	1
X-ray burn	2
Infection following amputation.....	1
Alleged improper treatment of scald.....	1
Removal of adenoids.....	2
Alleged improper abdominal incision.....	2
Failure to administer serum, patient died of lock jaw	1

Fracture of collar bone.....	1
Wilful insertion of instrument, producing abortion	1
Operation for pregnancy of fallopian tube.....	1
Negligent administration of poison, causing death	1
Improper treatment of wound in leg from kick of horse	1
Alleged negligence in communicating erysipelas to woman in childbirth.....	1
Negligence in suffering patient mentally delinquent to jump out of unguarded window in private sanitorium	1
Negligent amputation of finger.....	1
Negligence in attending cut severing cords of hand	1
Wrongfully administering morphine.....	1
Communicating small-pox to patient in hospital..	1
Total amount of damages claimed in all cases to date.....	\$1,039,948.00
Judgments recovered against members..	3
Aggregate amount of judgments.....	3,225.00
Consultation on cases threatened in which no proceedings were had.....	53

It was moved and seconded that the medico-legal committee be commended for their excellent work. The motion carried.

The report of the Trustees was passed until the following morning.

The report of the committee on Constitution and By-Laws was presented by Dr. D. C. Brockman, chairman, and is as follows:

Report of Committee on Constitution and By-Laws to the House of Delegates, Iowa State Medical Society

Gentlemen:—

Your committee on Constitution and By-Laws begs leave to make the following report:

At the regular meeting of the Society held in Des Moines, 1913, Dr. Rendleman, of Davenport, offered the following amendment to the Constitution.

Amend Article VIII, Section 1, of the Constitution by inserting the words "a President-Elect" after the words "Vice-Presidents" in the third line of said Section and said Article.

Amend Article VIII, Sec. 2, of the Constitution by striking out the word "President" in the first line of said Section, and inserting instead the word "President-Elect."

Add a new section to the Constitution, said new section to be known as Article VIII, Section 4.

Sec. 4. That at the election of officers at the session of 1915, there be elected a President who shall enter upon the duties of his office at once, and also a President-Elect who shall enter upon the duties of the Presidency one year later; thereafter, the President-Elect shall enter upon the duties of the Presidency one year from the date of his election.

At the Sioux City session, 1914, Dr. Small, of Waterloo, offered the following amendment to Article XII of the Constitution, amend by striking out all after the word "been" in line 8, and insert, "pub-

lished in the Journal of this Society." The article will then read, "such amendment shall have been presented in open meeting at the previous Annual Session and shall have been published in the Journal of this Society." Dr. Small also moved to amend Sec. 3, of Article VIII by adding after the word "Councilor" in the 7th line, the words "and Trustee."

At the Des Moines session, 1913, Dr. Rendleman also offered a resolution to amend Chapter V, Sec. 2 of By-Laws by striking out the last thirty words of said section, or all the said section after the word "office" in the sixth line from the end of the section, and inserting instead "of President-Elect (in 1914 President also) the names of three members for the office of Secretary, (when elected), the names of three members for the office of Treasurer, (when elected), and one member for each of the other officers to be elected. Two candidates for President-Elect shall not be named from the same county."

We would recommend the adoption of all the amendments offered to the Constitution and recommend instead of the change in Sec. 2, Chapter V of the By-Laws proposed by Dr. Rendleman the following:

Chapter V, Sec. 2 to be changed by striking out the last thirty words of said section or all of said section after the word "office" in the 6th line from the end of the section and insert instead "of President-Elect (in 1915 President also), and one member for each of the other offices to be filled at that annual election, two candidates for President-Elect shall not be named from the same county."

We would also recommend changing lines one and two of Sec. 3, Chapter VI, of the By-Laws to read as follows: "The Treasurer shall give bonds in the sum of \$10,000," also after the last line of Sec. 4, Chapter VI, insert: "The Secretary shall give bond in the sum of \$10,000—such bond to be procured from some reliable security company and to be approved by the Board of Trustees. The expense of such bond to be paid by the Society."

Respectfully submitted,

D. C. BROCKMAN,

MAX EMMERT,

Committee.

Dr. V. L. Treynor moved that the amendments to the Constitution and By-Laws incorporated in this report, except the amendments in regard to the Treasurer's and Secretary's bonds, which are new matter, be adopted. The motion was seconded and unanimously carried.

Dr. Paul E. Gardner, chairman of the committee on health and public instruction reported for this committee. This report upon motion was received and placed on file.

Report of Committee on Health and Public Instruction

Your committee begs to report that, while we have not reached our ideal in our work, yet through our committee, I have the pleasure to inform you, that eighty-five meetings have been held over dif-

ferent parts of the state along the lines of public health.

PAUL E. GARDNER.

Report of the Special Committee on Medical Education

Dr. William E. Sanders, chairman of the special committee, to report on the Majority and Minority Reports of the Committee on Medical Education in Iowa submitted to the House of Delegates at the Sioux City Session, 1914, presented the following report:

Pursuant to the Voldeng resolution referring the majority and minority reports of the committee on medical education submitted at the Sioux City meeting, May 13, 1914, to a committee of three with full authority to report thereon at the next Annual Session, we, the aforesaid committee, beg to submit our report as follows:

1. The Majority Report.

We have reviewed the credentials and exhibits upon which the Majority Report was based, and it is our opinion that the conclusions and recommendations therein contained were in the main supported by the evidence adduced. The committee does not believe, however, that the testimony of students who for one reason or another left the university to complete their clinical training elsewhere should have been considered material evidence and given serious consideration in the foundation of this report.

We are glad to note that the criticism respecting a non-resident Dean of the Medical College at Iowa City no longer applies and there are other evidences that the report has already borne good fruit.

2. We commend the spirit of the Minority Report.

3. While this committee fully realizes that the strict letter of the Voldeng resolution does not demand a continuation of the investigation into medical education in Iowa at the present time, yet we believe such a spirit was implied, and in accordance therewith and in compliance with numerous solicitations from members of the profession of the state including the President of the State Medical Society and the Dean of the Iowa College of Medicine, we have pursued the following investigations:

The report of the University Hospital, the proof sheet of the fourth annual report covering the period up to June 30, 1914, having been placed before us shows a gradual gain in patients in all its departments except the private patients which has declined from 180 in 1911-12 to 111 in 1913-14.

A comparison of the last three annual reports is as follows:

	1911-12	1912-13	1913-14
Eye, ear, nose, throat and oral surgery	564	629	701
Surgery	538	561	615
Medicine	335	385	549
Obstetrics	141	190	204
Gynecology	137	143	157
Private cases, unclassified.....	185	181	111

The obstetric service shows the admittance of 121 adults during the year ending June 30, 1914 with ninety deliveries of which eighty-four were uncomplicated normal, three breech, one forceps, one placenta previa and one prolapse of cord.

There were seven deaths in this department, but since babies born in this department are listed in this service, one would infer that the deaths were largely of infants.

The gynecological service shows 157 admissions and three deaths. In addition to the 549 cases admitted to the medical service there were 155 cases referred for general physical examination from other indoor departments or to the outpatients medical dispensary.

In the medical service there were twenty-two cases of the acute infections, including four cases of diphtheria, one influenza, one malaria, six pneumonia, one scarlet fever, and three follicular tonsillitis, four typhoid fever, one varicella and one variola. The remaining cases cover the field of clinical medicine in a satisfactory manner. Deaths thirty-three. Among the 615 surgical cases, there were six cases of dislocation, nineteen fractures, 119 cases of appendicitis and eighty-four hernias. The remaining 400 cases cover the field of general surgery quite well.

In this service is recorded orthopedic cases, a department which has been placed under a special professor for the past two years and which is being greatly increased. In the surgical service there were twenty-four deaths.

The department of eye, ear, nose and throat has for a number of years been a very strong clinical department, and requires no comment.

The chairman of this committee, has, during the past few years on several occasions, visited and personally investigated the various laboratories of the college of medicine and felt that he was reasonably familiar with the scope and character of the work covered by the student in all these departments except that of pharmacology. We accordingly directed a letter to the Dean of the college asking for an outline of the laboratory work done in this department.

After reviewing carefully the outline of the work and student note books furnished us from this department, we are convinced that the scope and character of the work compares very favorably indeed with the average of our very strongest schools.

The committee requested that the senior class be asked for a statement regarding their work in obstetrics, gynecology and necropsies to which we have received to May 8, 1915 replies from nineteen of the twenty-three seniors. These replies show that the nineteen seniors participating in the answers up to May 8th had seen in obstetrics, lowest eleven, highest twenty-two cases, average fifteen plus. Gynecology lowest twenty, highest forty-five cases, average thirty-nine plus. Autopsies, lowest about fifty, highest about fifty-one, average about fifty.

In view of the evidence here presented, your committee feels that its investigations have amply shown that both as to the scope and character of its work, the first two years of the Iowa College of Medicine are ably and adequately covered and compare favorably with and pass at their face value at the very best schools in our land.

That in the clinical work of the junior and senior years, the teaching is of a high order and the clinical material sufficiently large and diversified to meet the needs of the relatively small classes of the institution.

We believe that the dispensary service which is already manifesting a healthy growth needs further strengthening, and that the residence of the heads of all clinical departments should be enforced.

We believe that a liberal financial policy towards the medical school is indispensable to the end that a strong resident faculty may be maintained, and teachers who attain or give promise of special distinction may not be lost to the institution because of inadequate financial support.

We are convinced that a spirit of mutual confidence and sympathetic co-operation between the members of the profession of the state and the faculty of the school of medicine will do much to fortify and strengthen the institution.

In the summation of this report, this committee has endeavored to keep before it the student's needs and the time allotted in the curriculum for the mastery of the principles of medicine, being mindful of the fact that it is entirely impossible to make men scholars in the vast field of clinical medicine within the allotted period of two years.

The most that can be hoped for is that the student shall have during his clinical years mastered the general principles of his art, that he shall have learned the methods of acute observation and sound reasoning, that he shall approach the problems of his chosen profession with an open mind, and a determination to never rest unenlightened on a perplexing individual case until he has exhausted all available resources of his skill and art for its mastery.

Moreover he must bear with him those nobler sentiments of humanity and earnest strivings for larger attainments which alone comes from the inspiring influence of sympathetic and devoted teachers.

W. E. SANDERS,
W. W. PEARSON,
V. L. TREYNOR.

Dr. F. W. Porterfield moved that this report be accepted and placed on file. Motion was seconded, and after discussion by Drs. M. N. Voldeng and V. L. Treynor, the motion was put and carried.

Dr. Osborn moved that on account of the lateness of the hour, the reports of the other committees be deferred until the next meeting. The motion carried and the meeting adjourned until eight o'clock the following morning.

The delegates then met in caucuses by congressional districts to select members of the nominating committee which was reported as follows:

First District—C. P. Frantz.
Second District—W. L. Allen.
Third District—F. W. Porterfield.
Fourth District—P. E. Gardner.
Fifth District—J. M. Young.
Sixth District—C. B. Taylor.
Seventh District—W. S. Conkling.
Eighth District—C. T. Lesan.
Ninth District—A. L. Brooks.
Tenth District—W. W. Bowen.
Eleventh District—W. W. Dean.

THURSDAY MORNING MEETING MAY 13, 1915

The meeting was called to order in the lecture room of the Grace M. E. Church, by the President, Dr. H. C. Eschbach. Roll call showed a quorum to be present. Reports of committees were continued.

Dr. G. N. Ryan, chairman of the Board of Trustees, read the Trustees' report. Motion was made and seconded that the report be received and placed on file.

Summary of Trustees' Report

Dr. Ryan reported that three meetings of the Board of Trustees had been held during the year; that at the November meeting, the Trustees decided to enlarge the size of the Journal page and to move the office of publication from Washington, Iowa, to Des Moines, which was made with the January issue and the Secretary of the Society was made business manager. With the enlarged page, it was decided that the rates of advertising could now be increased to correspond with those of other state journals. This increase amounted to approximately 50 per cent. Dr. Ryan reported that many compliments had been received on the improved form of the Journal and that so far there had been no decrease in the advertising patronage.

The financial part of the report coinciding with that of the reports of the Secretary and Treasurer is here omitted.

The report of the Necrology committee was presented by Dr. C. A. Boice, chairman of the Councilors. Motion was made and carried that the report be received and placed on file.

Necrology Report

Dr. C. A. Boice reported that during the year fifty Iowa physicians had died. Suitable obituaries of these have been published in the Journal.

Report of Committee on Books and Periodicals

Dr. G. H. Hill, chairman of the committee on books and periodicals (for the State Medical Library) made a verbal report as follows:

"Our committee has not done very much work, because we had been expecting the legislature to make an appropriation for the medical department of the state library. This having failed, we have depended on personal donations which we have solicited, to increase the library from time to time.

"In the matter of journals it would be a good

plan to have the doctors donate journals. These numbers could be exchanged for journals from other states, in that way a large collection of various state journals could be obtained. Eventually these could be exchanged for those of other nations and in other languages."

Dr. J. E. Luckey, chairman of the committee on Tuberculosis (to investigate the advisability of forming a society for the study and prevention of tuberculosis) presented the report of his committee, which was followed by a motion that same be received and placed on file.

Report of the Committee on Tuberculosis

Your committee after careful investigation in conference with men prominent in the anti-tuberculosis movement have come to the conclusion that the only effective way to educate the people of the state concerning this disease is by the formation of an anti-tuberculosis association which shall have its own independent organization but which must have the support and approval of the State Medical Society and be in affiliation with the same.

Your committee believes after its careful investigation that the most effective work can be done only by co-operative efforts of the various philanthropical and charitable organizations of the state, and for this reason they suggest that a state anti-tuberculosis association be formed as an independent organization as above suggested.

It is, therefore, suggested that the President appoint a committee from the State Medical Society which shall confer with such other organizations of the state as may be interested in this work and proceed with the immediate formation of such an association.

J. E. LUCKEY,
H. V. SCARBOROUGH,
JOHN H. PECK.

The committees on Library, Public Policy and Legislation not answering when called, their reports were passed until the following morning.

A motion was made by Dr. C. P. Frantz that the committee on Constitution and By-Laws be requested before the next session, to draft an amendment with the idea of saving much valuable time by having the various reports referred to a special committee or committees appointed for that purpose. This motion was seconded by Dr. Devine and carried.

The following resolution was offered by Dr. W. L. Allen, who moved its adoption, motion seconded.

Resolution

"Whereas; An entirely unwarranted and clearly malevolent attack was recently made on the Board of Health of the State of Iowa, and,

"Whereas; We believe that the present State Board of Health is the best the State of Iowa has ever had, be it

"Resolved; That we the members of the House of Delegates of the Iowa State Medical Society, in the Annual Session assembled, in Waterloo, on May 12,

13 and 14, 1915, do hereby express the conviction that the present State Board of Health has rendered and is rendering the best possible service to the people of the State of Iowa, although seriously handicapped by a lack of ample funds, and be it

"Resolved; That the House of Delegates of the Iowa State Medical Society compliment and thank Governor Clark and the Thirty-Sixth General Assembly for the splendid and fully merited endorsement and support given the present efficient State Board of Health."

Dr. Frantz moved as an amendment that this resolution be referred to a special committee of five to report at the following morning session. This motion was seconded.

It was moved by Dr. Lesan and seconded that the amendment be laid on the table. The motion carried. A point of order was then made that tabling the amendment tabled the resolution, sustained.

The Secretary reported that the county medical societies of Hancock and Winnebago counties had decided to unite; that he had in his possession their application for a new charter, under the name, "Hancock-Winnebag County Medical Society." He moved that the charters of the Hancock and Winnebago County Medical Societies be revoked and that a new charter be granted the Hancock-Winnebag County Medical Society. Dr. T. E. Powers seconded this motion, which was carried unanimously.

The Secretary announced that he had some communications from the American Medical Association and moved that a special committee of three be appointed with Dr. M. N. Voldeng as chairman to consider these communications and report at the following morning's session. The motion carried. The President appointed as the other members of this committee Dr. L. W. Littig and Dr. J. C. Rockafellow.

Dr. W. B. Small moved that the amendment proposed yesterday by the committee on Constitution and By-Laws to Section 3, Chapter VI raising the amount of the Treasurer's bond from \$5,000 to \$10,000 be amended by adding "said bond to be procured from some reliable security company by the Trustees." The motion to amend was seconded and carried. The motion as amended was then voted upon and adopted unanimously.

Dr. J. W. Osborn moved that the amendment proposed yesterday by the committee on Constitution and By-Laws to Section 4, Chapter VI bonding the Secretary for \$10,000 be amended to read "said bond to be secured by the Trustees from some reliable security company, to be approved by the Board of Trustees, the expense of such bond to be paid by the Society."

The motion to amend was seconded and carried. The motion as amended was then voted upon and adopted unanimously.

Dr. Small moved that the Board of Trustees investigate the matter of attorneys' fees for services to the medico-legal department, and be empowered to act in conference with the medico-legal commit-

tee, with power to make a contract on a salary basis.

Motion seconded by Dr. M. N. Voldeng. Motion was discussed by Drs. B. G. Dyer, J. G. Roberts, W. B. Small, G. N. Ryan, C. B. Taylor, C. E. Harris, M. N. Voldeng, C. S. Kennedy and J. C. Langan.

The question was called for and after a vive-voce vote, the President announced that the motion appeared to be lost, that it was lost, when a division was called for.

At this time Dr. W. B. Small, with the consent of his second, withdrew from the motion, the words, "on a salary basis."

A rising vote was then taken and the motion carried, 34 to 10. A point of order was made that it was out of order to allow a withdrawal of a part of a motion after a vote had been taken. The President ruled the point of order not well taken, an appeal was taken from the President's ruling and the President sustained. A motion to adjourn was then made and carried.

FRIDAY MORNING MEETING OF THE HOUSE OF DELEGATES, MAY 14, 1915

Meeting was called to order by the President, H. C. Eschbach in the lecture room of the Grace M. E. Church. Roll call showed a quorum to be present.

The minutes of the meeting for Wednesday evening and Thursday morning were read and approved.

The first order of business was the report of the Nominating committee. Dr. C. B. Taylor, of What Cheer, in behalf of the committee, made the following nominations:

Officers

For President—W. B. Small, Waterloo; C. J. Saunders, Fort Dodge, and C. S. James, Centerville.

President-Elect—W. A. Rohlf, Waverly; J. F. Herrick, Ottumwa, and F. M. Fuller, Keokuk.

First Vice-President—J. E. Luckey, Vinton.

Second Vice-President—H. B. Gratiot, Dubuque.

Council—First District, John R. Walker, Fort Madison; Eleventh District, G. C. Moorehead, Ida Grove.

For Secretary—J. W. Osborn, Des Moines.

For Treasurer—T. F. Duhigg, Des Moines.

Trustee—D. H. Bowen, Waukon.

Delegate to A. M. A.—J. C. Rockafellow, Des Moines.

Alternate—F. M. Tombaugh, Burlington.

Committees

Medico-Legal Committee—D. S. Fairchild, Clinton.

Committee on Constitution and By-Laws—D. C. Brockman, Ottumwa; Max Emmert, Atlantic, and E. Hornibrook, Cherokee.

Public Policy and Legislation—T. F. Duhigg, Des Moines; B. L. Eiker, Leon, and W. S. Conkling, Des Moines.

Finance Committee—W. W. Pearson, Des Moines; C. P. Frantz, Burlington, and C. J. Saunders, Fort Dodge.

Publication—W. L. Bierring, Des Moines, and F. W. Porterfield, Waterloo.

Health and Public Instruction—Paul E. Gardner, New Hampton.

Next meeting place, Davenport.

The meeting proceeded to ballot on election of President, Drs. F. W. Porterfield and C. B. Taylor being appointed tellers by the chair. The result of the first ballot stood as follows: C. S. James, 6 votes; C. J. Saunders, 8; W. B. Small, 27. Dr. Small having received the majority of votes cast, the President declared him duly elected President for the ensuing year. Dr. Emmert moved that the vote for Dr. Small be made unanimous. Motion seconded and carried.

The meeting then proceeded to vote for President-Elect. Dr. F. M. Fuller, of Keokuk, received 2 votes; Dr. W. A. Rohlf, Waverly, 12; Dr. J. F. Herrick, Ottumwa, 26 votes. Dr. Herrick having received the majority of votes cast, the President announced him duly elected President-Elect.

Dr. Lesan moved that the rules be suspended and that the Secretary be instructed to cast the ballot of the House of Delegates for the rest of the officers as named by the Nominating committee. The motion was seconded and carried. The ballot was so cast and the nominees were declared duly elected to the various offices.

It was moved and seconded that the next meeting of this Society be held in Davenport, as recommended by the committee on nominations, beginning the second Wednesday in May, 1916. At this time a telegram from the Mayor of Davenport urging the Society to meet in that city in 1916 was read. Motion put and carried.

Dr. Thomas F. Duhigg, chairman of the committee on Public Policy and Legislation presented his report, which was accepted and placed on file.

Report of Committee on Public Policy and Legislation

The committee on Public Policy and Legislation respectfully submits the following report of the laws relating to public health enacted by the Thirty-Sixth General Assembly.

A law that provides for the care of crippled children at the hospital of the State University of Iowa at the expense of the county in which the patient lives.

A law requiring that the following named diseases be reported and placarded: measles, whooping cough, mumps and chicken-pox.

A law appropriating \$5,000 to be used under the direction of the State Board of Health, in epidemiologic work and analysis of samples of water from municipal water plants.

Aside from these laws, which are of minor importance, there was no legislation calculated to effect public health.

The vital statistics bill, medical library bill, the child welfare laboratory bill and the bill requiring that tuberculosis, typhoid fever, pneumonia and puerperal fever be reported were defeated.

In a third group were a number of important bills, none of which had any merit, and all of which were defeated. First in this group is the chiropractic bill, known as House File 88, which would have legalized their practice after one year's so-called professional training, without any preliminary training.

The proposed state anti-narcotic law also merited defeat, which it received. It would have required physicians to make a report of all narcotic drugs handled in the previous three months, when called upon to do so by the State Board of Pharmacy, to whom the proposed report would be made.

Two or three other bills of minor importance, originating in the Pharmacy committee of the House and aimed at dispensing doctors, were defeated.

A bill requiring minors to have the consent of their parents before presenting themselves to a physician for treatment for venereal disease was also defeated. This was proposed in good faith and was intended to embarrass quack and advertising physicians who treat only this class of cases. However, it would be a hardship chiefly to the general practitioners, in addition to offering a very powerful restraint to minors to present themselves to a physician at all, as they would prefer any kind of irregular treatment to being required to get their parents' consent.

Many other bills of various and divers character, aimed at one thing, but striking another, were disposed of in committees.

To summarize, it can be said that all the legislation enacted was beneficial. Part of the legislation defeated would be beneficial, and this part met defeat because the bills carried appropriations.

The proposed legislation which was harmful was defeated because of that fact. This constitutes the largest group and none of the bills carried appropriations.

THOS. F. DUHIGG,
W. S. CONKLING,
B. L. EIKER,
H. C. ESCHBACH,
J. W. OSBORN.

Dr. C. B. Taylor moved that a vote of thanks be tendered the Public Policy and Legislation committee, and especially Dr. Duhigg, in recognition of his excellent work on this committee. The motion seconded and carried.

Dr. Max Emmert proposed the following amendment to Chapter VIII, Sec. 8, of the By-Laws.

After the first paragraph ending with "or to pay the court costs of any suit," the following to be inserted: "they shall in no case pay more than \$25 per diem for legal services rendered by the local attorney and such services shall be limited to one day unless otherwise authorized in writing by the Medico-legal committee."

Laid over, under the rules, until next year.

In order to cover the By-Law for the present year, Dr. Emmert introduced the following resolution: Resolved, That the Medico-legal committee be authorized to pay to local attorneys in malprac-

tice cases not more than \$25 per diem for legal services and that such services be limited to one day unless otherwise authorized by the Medico-legal committee.

Dr. Boice moved the adoption of this resolution. The motion was discussed by Drs. Littig, Emmert, Ryan, and Small.

Dr. Small then moved that the resolution be laid on the table. Motion seconded and carried.

There being no one present to report on the Library committee, the report was passed.

In the absence of all the members of the Finance committee, excepting Dr. Saunders, the President announced that he had appointed Dr. T. P. Stanton, a member of the Finance committee. Dr. Stanton presented the report of the committee, which on motion duly seconded was accepted and placed on file.

Report of Finance Committee

We, the Finance committee, beg leave to report that we have examined the report of the Treasurer and find it to be correct.

T. P. STANTON,
C. J. SAUNDERS.

Dr. W. B. Small presented the following resolution and moved its adoption: Resolved, That for the purpose of meeting the deficit in the medico-legal fund, an assessment of \$1.00 per member for one year be made and collected at the same time and in the same manner as the dues of 1916.

Dr. C. B. Taylor seconded the motion which carried unanimously.

Dr. Small moved that the Board of Trustees be instructed to borrow such money as may be necessary to pay the expenses of the Society during the coming year, without letting the bills run. Dr. Boice seconded the motion, which carried.

Dr. Lesan moved that a committee of three be appointed by the President to draft a resolution extending the thanks of the Society to the people of Waterloo for the entertainment afforded them during the state medical meeting. Dr. Ryan seconded the motion, which carried. The President appointed the following to act on this committee: Drs. C. T. Lesan, V. L. Treynor, and W. S. Conkling.

Dr. Paul Gardner introduced the following resolution, signed by Dr. F. W. Porterfield and moved its adoption, the motion was seconded.

Resolved, That at the Annual Session of 1916, the first meeting of the House of Delegates be held on the day previous to the commencement of the regular session of the Society at an hour to be fixed by the Committee on Arrangement. At this meeting the nominating committee shall be selected and all committee reports be received and considered.

Dr. V. L. Treynor raised a point of order that the resolution was contrary to the Constitution and By-Laws, but the President ruled that the point of order was not well taken. The motion was discussed by Drs. Treynor, Conkling, Taylor, Porterfield and Albert. Another reading of the resolution was called for.

The Secretary read the resolution again, when Dr. Taylor moved that the resolution be tabled. The motion was seconded and carried.

Dr. L. W. Littig for the committee appointed to consider certain communications received from the Secretary of the American Medical Association reported as follows:

To the House of Delegates,

Gentlemen:

In compliance with the instructions given yesterday, by this House, to the Delegates of the Iowa State Medical Society to the American Medical Association, said Delegates have carefully considered the proposed amendment to Sec. 4, Chapter VII of the By-Laws of the American Medical Association, said amendment having been presented at the Atlantic City meeting, and to be voted on at the coming San Francisco meeting. Inasmuch as the proposed changes in Sec. 4, Chapter VII of the By-Laws more clearly indicates the questions in which the Judicial Council shall have direct jurisdiction and in which it shall have appellate jurisdiction, the proposed amendment seems desirable.

Submitted by

J. C. ROCKAFELLOW,
M. N. VOLDENG,
L. W. LITTIG.

Dr. Boice moved the acceptance of this report. Motion seconded and carried.

In regard to a special organizer to be sent out from the office of the American Medical Association, the committee referred this back to the House of Delegates and Dr. Boice moved that the House of Delegates do not approve of the plan of the American Medical Association in the employment of a traveling organizer. The motion was seconded by Dr. V. L. Treynor and carried.

On motion made and seconded, the meeting was declared adjourned, to meet in Davenport, Iowa, the second Wednesday in May, 1916.

J. W. OSBORN, Sec'y.

Meeting of the Council

At a meeting of the Council held immediately on the adjournment of the House of Delegates, Dr. P. E. Gardner was elected President and Dr. Henry Albert, Secretary. Dr. J. F. Herrick, President-Elect, resigned as Councilor in the Sixth Congressional District. Dr. S. A. Spilman was elected to fill the vacancy.

HENRY ALBERT, Sec'y.

MINUTES OF THE SIXTY-FOURTH ANNUAL SESSION OF THE IOWA STATE MEDICAL SOCIETY, WATERLOO, MAY 12, 13, 14, 1915

WEDNESDAY, MAY 12

The Sixty-fourth Annual Session of the Iowa State Medical Society convened in Grace Methodist Episcopal Church, Waterloo, at 9:00 A. M., May 12, 1915.

The meeting was called to order by the President, Dr. H. C. Eschbach, Albia, following which Rev. Effie McCollom Jones, Waterloo, gave the invocation. The address of welcome was then made by Rev. J. R. McCartney, Waterloo, which was followed by greetings for the profession by Dr. F. W. Porterfield, Waterloo, and response by Dr. J. R. Guthrie, Dubuque.

Dr. Ben C. Everall, Waterloo, read a paper on "Non-Malignant Diseases of the Prostate." Discussed by Drs. R. A. Weston, Des Moines; C. F. Wahrer, Ft. Madison, and Ben C. Everall, Waterloo.

The Secretary announced that Dr. D. S. Fairchild, First Vice-President of the American Medical Association, wished to say a few words. Dr. Fairchild, on behalf of the Society, then presented to the President a gavel, stating that it was for the purpose of calling wayward members to order. In thanking Dr. Fairchild and the members for the gavel, Dr. Eschbach said that while the Society was not composed generally of wayward men, he was very grateful for the possession of the instrument and still more grateful for it as a memento of the sentiment of the Iowa State Medical Society.

Dr. M. J. Kenefick, Algona, read a paper on "The Diagnosis of Osteomyelitis." Discussed by Drs. Wm. Jepson, Sioux City; Charles J. Rowan, Iowa City; D. S. Fairchild, Clinton; D. C. Brockman, Ottumwa; L. W. Littig, Davenport; E. H. King, Muscatine; C. F. Wahrer, Ft. Madison, and M. J. Kenefick, Algona.

Dr. G. E. Crawford, Cedar Rapids, read a paper on "Life Insurance and the Doctor." Discussed by Drs. George E. Decker, Davenport; A. C. Page, Des Moines; M. L. Turner, Des Moines; J. L. Augustine, Ladora; A. L. Brooks, Audubon, and Fred Wells, Des Moines.

Owing to the absence of the author the paper on "Diagnosis of Surgical Diseases of the Gall-Bladder," by Dr. W. A. Rohlf, Waverly, was read by title and passed.

Calling Vice-President J. F. Herrick to preside, the President, Dr. H. C. Eschbach, read his address, following which the chairman appointed, as a committee to consider and report upon the address, Drs. S. A. Spilman, Ottumwa; Paul E. Gardner, New Hampton, and D. S. Fairchild, Clinton.

Dr. J. C. Rockafellow, Des Moines, read a paper on "Diagnosis and Treatment of Chorio-Epithelioma." Discussed by Drs. J. F. Herrick and J. C. Rockafellow.

WEDNESDAY AFTERNOON MEETING

The meeting was called to order by the President at 1:30 P. M.

Dr. A. J. Swezey, Decorah, read a paper on "Ruptured Uterus in a Country Practice." No discussion.

Dr. William L. Allen, Davenport, read a paper on "Indications for Caesarian Section." Discussed by Drs. A. G. Hejinian, Anamosa; W. A. Rohlf, Waverly, and William L. Allen.

Dr. Paul E. Gardner, New Hampton, presented

"Report of the Chairman of the Section on Medicine."

Dr. S. K. Davis, Libertyville, read a paper on "Diabetes Mellitus." Discussed by Drs. C. F. Wahrer, Ft. Madison; W. L. Bierring, Des Moines; L. W. Littig, Davenport; J. F. Herrick, Ottumwa; C. T. Maxwell, Sioux City; E. H. King, Muscatine, and S. K. Davis.

Dr. T. A. Moran, Melrose, read a paper on "Gastrorrhagia, With Report of a Fatal Case." Discussed by Drs. J. F. Herrick, Ottumwa; E. F. Talbot, Grinnell; L. W. Littig, Davenport; Frank M. Fuller, Keokuk; W. L. Bierring, Des Moines; William E. Sanders, Des Moines; M. A. Tinley, Council Bluffs, and T. A. Moran.

Dr. E. C. McClure, Bussey, read a paper on "Madelung's Disease, With Report of Three Iowa Cases." Discussed by Drs. J. F. Herrick, Ottumwa; W. L. Bierring, Des Moines; H. C. Eschbach, Albia, and E. C. McClure.

Dr. Van Buren Knott, Sioux City, read a paper on "The Surgical Complications of Typhoid Fever." Discussed by Drs. J. N. Warren, Sioux City; M. L. Turner, Des Moines; J. L. Augustine, Ladora; William E. Sanders, Des Moines; C. S. James, Centerville; W. E. Scott, Adel, and Van Buren Knott.

Dr. Clinton E. Harris, Grinnell, read a paper on "Co-operation; What Does it Mean?" Discussed by Drs. Pauline Myers Hanson, Marshalltown; J. G. Roberts, Oskaloosa; Thomas F. Duhigg, Des Moines; E. H. King, Muscatine, and Clinton E. Harris.

WEDNESDAY EVENING MEETING.

The meeting was called to order by the President at 7:30 P. M.

Dr. Tom B. Throckmorton, Des Moines, read a paper on "Early Acquired Spastic Paraplegia Associated with Hypothyroidism and Ichthyosis, with Report of a Case." Discussed by Drs. W. L. Bierring, Des Moines; Frank M. Fuller, Keokuk, and Tom B. Throckmorton.

Dr. George E. de Schweinitz, Philadelphia, (by invitation) read a paper on "The Etiological Factors in Uveal Tract Diseases and the General Examinations Required to Determine Their Presence and Decide upon the Treatment of the Lesions They Produce."

It was moved by Dr. W. L. Bierring that the Society express its appreciation to Dr. Schweinitz for his inspiring address by standing, whereupon a rising vote of thanks was unanimously extended.

THURSDAY, MAY 13, MORNING MEETING

The meeting was called to order by Vice-President Herrick at 9:00 A. M.

Dr. S. A. Spilman, Ottumwa, read a paper on "The Surgical Treatment of Old Gonorrheal Infections in Women." No discussion.

Dr. W. E. Sanders, Des Moines, read a paper on "The Classification and Treatment of Chronic Cryptogenetic Splenic Tumor; Splenectomy." Discussed

by Drs. William Jepson, Sioux City; W. L. Bierring, Des Moines, and W. E. Sanders.

Dr. C. A. L. Reed, Cincinnati, (by invitation), gave an address on surgery, entitled, "Some of the Later Adaptations of Gastro-Intestinal Surgery," at the conclusion of which a rising vote of thanks was extended to Dr. Reed.

Address of the Chairman of the Section on Surgery was made by Dr. Oliver J. Fay, Des Moines.

Dr. C. A. Rowan, Iowa City, read a paper on "Surgical Treatment of Hyperthyroidism." Discussed by Drs. Murdock Bannister, Ottumwa; James T. Case, Chicago; C. E. Ruth, Des Moines; J. F. Herrick, Ottumwa; G. N. Ryan, Des Moines; W. L. Bierring, Des Moines; A. G. Hejinian, Anamosa, and C. A. Rowan.

Dr. James F. Clarke, Fairfield, read a paper on "The Fixation of the Femur Fragments with a Lane Plate When Using a Bone Transplant after Excision." Discussed by Drs. William Jepson, Sioux City; C. E. Ruth, Des Moines; Henry Albert, Iowa City; L. W. Littig, Davenport, and James F. Clarke.

THURSDAY, MAY 13, AFTERNOON MEETING

The meeting was called to order by the President at 1:30 P. M.

Dr. N. Schilling, New Hampton, read a paper on "The Relation of Appendicitis to Other Intra-Abdominal Lesions." Discussed by Drs. C. F. Wahrer, Ft. Madison; L. W. Littig, Davenport; C. T. Maxwell, Sioux City; A. J. Farnum, Reinbeck; Paul E. Gardner, New Hampton, and N. Schilling.

Dr. Arthur Steindler, Des Moines, read a paper on "Arthroplasty from the Clinical and Experimental Standpoint." Discussed by Drs. J. C. Rockafellow, Des Moines; C. S. James, Centerville, and Arthur Steindler.

Dr. S. A. Spilman, chairman of the committee appointed to consider and report upon the President's Address, presented report as follows:

Your committee to whom was referred the President's Address would submit the following:

"The scholarly, interesting, and suggestive address of the President is an inspiration to the medical profession of Iowa, and we hereby express our sincere appreciation of the same. We deem it of special importance that any legislation recommended should not be in favor of any class or cult, but wholly for the public good, as suggested by the President of this Society."

We recommend that these resolutions be spread upon our minutes.

S. A. SPILMAN,
PAUL E. GARDNER,
D. S. FAIRCHILD.

Committee.

Upon motion, carried unanimously, the report of the committee was adopted.

Dr. D. S. Fairchild, Clinton, read a paper on "The Effects of the Compensation Law on the Profession." Discussed by Drs. N. Schilling, New Hamp-

ton; S. E. Hinshaw, Newton; C. F. Wahrer, Ft. Madison, and D. S. Fairchild.

Dr. A. M. Pond, Dubuque, read a paper on "A Series of Brain Operations." Paper discussed by Drs. C. E. Ruth, Des Moines; F. A. Ely, Des Moines; Ben C. Everall, Waterloo; D. S. Fairchild, Clinton, and A. M. Pond.

Dr. James T. Case, Chicago, read a paper on "Roentgen Studies Relating to the Causation and Treatment of Constipation," illustrated by lantern slides. No discussion.

FRIDAY, MAY 14, MORNING MEETING

The meeting was called to order by Vice-President Herrick at 9:00 A. M.

Upon motion, carried, paper entitled, "Pregnancy and Tuberculosis," by Addison C. Page, Des Moines, was read by title and passed.

Dr. Laura H. Branson, Iowa City, read a paper on "Pelvic Neoplasms in Pregnancy." Discussed by Drs. H. C. Eschbach, Albia; C. E. Ruth, Des Moines, and Laura H. Branson.

Dr. J. E. Luckey, Vinton, read a paper on "What is the Matter With Us?" Discussed by Drs. John H. Peck, Des Moines; Frank M. Fuller, Keokuk; Pauline Myers Hanson, Marshalltown; W. A. Rohlf, Waverly, and J. E. Luckey.

Dr. F. M. Tombaugh, Burlington, read a paper on "The Use of Lane's Plates in the Treatment of Fracture of the Femur."

It was moved by Dr. J. F. Herrick that inasmuch as the time was short, with several papers still to be read, all discussions be postponed until all the papers were read. Motion seconded. Carried.

Dr. F. C. Mehler, New London, gave the "Oration on Medicine."

Dr. C. L. Lesan announced that, in accordance with action taken by the House of Delegates creating the committee, he desired to make report and move the adoption of the following resolution:

We, the members of the Iowa State Medical Society, in regular session at Waterloo, do hereby express our sincere appreciation and thanks for the excellent entertainment which has been provided for us by the citizens of Waterloo, and we especially desire to express our appreciation to the members of the Black Hawk and Waterloo Medical Societies and their wives, to the Waterloo Commercial Club, Elks' Lodge, and the members of Grace Methodist Episcopal Church, for their untiring efforts in providing for our comfort and entertainment for this our annual meeting; and that a copy of this resolution be spread upon the minutes of this Society.

Respectfully submitted,

C. L. LESAN,
V. L. TREYNOR,
W. S. CONKLING,
Committee.

Motion to adopt seconded. By a rising vote the resolution was unanimously adopted.

Dr. W. E. Scott, Adel, moved that the Secretary be instructed to send a telegram to the President of the United States, as follows:

"The Iowa State Medical Society desires to hereby express its confidence in the nation's chief executive, and sincerely hopes that war may be averted and that righteousness may prevail. We heartily endorse your prophylaxis and hope that conservative treatment may avail and that the national conscience be conserved.

"The medical profession of the state pledges its loyal support in the event that the pulse of the nation should indicate radical measures for its safety and the promotion of justice to humanity."

Upon motion, duly seconded and carried, the resolution was laid on the table.

Dr. V. L. Treynor, Council Bluffs, read a paper on "The Diagnostic Importance of Blood Examinations."

Dr. T. E. Powers, Clarinda, read the Oration on Surgery, his subject being, "The Morrow of Surgery."

The Secretary presented his report on proceedings had in the House of Delegates. (See minutes of the House of Delegates.)

Upon motion, carried, the report was adopted as read.

Ex-President Eschbach: In retiring from this office it gives me much pleasure to introduce to you the incoming President, Dr. Small. Within the past day or two Dr. Dean, Dr. Treynor, and I believe also Dr. Littig, predecessors of mine, have been twitting me of one fact that I should die. Well, if this is dying, it is a mighty pleasant occupation. To me the peculiar thing is the fact that they, having been already dead for one, two or three years, as the case may be, should know that I am to die and should seem so pleased about it. And this has suggested to me the idea that possibly the fact of being President of this great State Society conferred immortality and that when one has died as President of the Iowa State Medical Society, he can foresee and know the future of the fellows in it. And this is a very comforting thought.

I accepted this office as your presiding officer with a great many misgivings and a great deal of nervous fear and trembling. And I want to admit now that, notwithstanding the office has entailed a great deal of work, every hour that I have been occupied in the duties of my position has been one of experience and pleasure. I came to this meeting with still greater misgivings, but so cordial and helpful have been all the officers, all the section and committee men, and above all the membership, the fellows themselves, of the Iowa State Medical Society, that presiding over this meeting has been every moment a pleasure, and I shall never live long enough to be able to show the gratitude I feel to

all of you for your cordial helpfulness in making of this, the Waterloo meeting, the greatest success of all the meetings on record in the history of the State Society. You have broken the record of registration here, and you have also broken another record I am sure, that of attendance in the hall. It does not matter so much, except that it sounds well, that 600 odd have registered. But I am satisfied the proportion of members in actual attendance in the hall has been greater than ever before. I have seen this coming for the past four or five years, the attendance at the meetings becoming greater and greater with each year. This shows that our membership is coming to these meetings with a more serious purpose and is taking advantage of the opportunities which our work here has given. I know that I have presided over the best meeting of the Iowa State Medical Society that has ever been held, not because I have been the presiding officer, because I have had nothing to do with making this a great success. So I can speak fully and freely about it. Every section man that I appointed, every committeeman that I appointed, every member of the Black Hawk and Waterloo Societies, have gone right to work and pulled together to make this meeting a success, and I will leave the verdict with you.

I want to again thank you and again renew if that is necessary or possible, my allegiance and loyalty to the great Iowa State Medical Society.

(Turning to Dr. Small): Mr. President and members of the Iowa State Medical Society: Our newly elected President needs no introduction here. He has been an officer in and knows the details of this organization as absolutely no other man in the Society knows them, and he has earned this office.

President Small: Dr. Eschbach and members of the Iowa State Medical Society: This Society has honored me for a number of years in making me their Treasurer, and I have appreciated that honor more than I can tell you. And now that you have elected me to be your presiding officer for the coming year, I certainly appreciate it and appreciate it more than words can tell.

Those of you who know me realize that I am not a public speaker. I ask your co-operation for the coming year to make the next meeting a success. And I feel sure that I have it, as you have given the presidents before me the co-operation necessary to make any meeting of the State Medical Society of Iowa a success. And I thank you for the honor conferred upon me.

Dr. G. T. McCauliff, Webster City, read a paper on "Early Diagnosis in Carcinoma of the Uterus."

Dr. Jeannette F. Throckmorton, Chariton, presented preliminary report of the health of women students in the colleges of the state.

The lateness of the hour prevented discussion of any of these papers.

Upon motion, the meeting adjourned.

MINUTES OF THE EIGHTEENTH ANNUAL SESSION OF THE STATE SOCIETY, IOWA MEDICAL WOMEN, WATERLOO, MAY 11, 1915

The Eighteenth Annual Meeting of the State Society, Iowa Medical Women was held May 11, 1915, in Waterloo at the Russell-Lamsom Hotel.

The President, Dr. Kate Harpel, of Boone, called the meeting to order at 9:00 A. M. The report of the Secretary and Treasurer was read. Short reports of their work were presented by the district chairman.

Dr. Florence Sherbon, of Colfax, gave a report of the Child Welfare Extension. Dr. Grace Jerger, of Waterloo presented a most interesting and instructive clinical case. Following this a luncheon was served in the hotel dining room.

At 1:30 P. M. an address of welcome was given by Rev. Effie McCullom Jones. The members of the Society expressed their appreciation of the clever and brilliant address by electing Rev. Jones an honorary member of the assembly. Dr. Clara Whitmore, of Sioux City, responded to the address of welcome.

In the President's address which followed, Dr. Harpel urged the women doctors of Iowa to arise to the unique opportunities which are theirs as women physicians and enter into the lines of public service for which they are especially equipped. Dr. Florence Brown Sherbon, Dr. Margaret Clark and Dr. Kate A. Hogle were appointed to report upon the President's address.

A paper, "Influences of Defective Vision on the Play Life of the Child," by Dr. Mary K. Heard, of Iowa City, was read. The paper was discussed by Drs. Kinnier, Dulin, Whitmore, Hanson and Wistein. Dr. Laura Branson read a paper on the "Menopause" which was discussed by Dr. Peo, Dr. Stinson and Dr. Wistein. Dr. Margaret Clark, of Waterloo, presented a paper, "The Medical Women's Contribution to the Education of Mothers." Doctors, Hanson, Stinson, Wistein, Peo, Graver, Sherbon and Clark entered into the discussion.

A round table discussion on "Anesthetic in Labor" was led by Dr. Grace F. Jerger. Dr. Kate A. Hogle and Dr. Ida Rhoades also took part.

A short business meeting followed. The officers elected for the following year were: Dr. Clara Whitmore, Sioux City, President; Dr. Lillie Kinnier, Dubuque, first Vice-President; Dr. Lula B. Webb, Cedar Rapids, second Vice-President; Dr. Grace F. Jerger, Waterloo, Secretary; Dr. Ida Rhoades, Cedar Falls, Treasurer.

In the evening the Woman's Club of Waterloo gave a reception to the members of the Society at the home of Mrs. E. M. Storm.

CONSTITUTION AND BY-LAWS OF THE IOWA STATE MEDICAL SOCIETY

Adopted at Sioux City, April 17, 1903; Revised at Cedar Rapids, May 17, 1907; Revised at Des Moines, May 9-11, 1913; Revised at Sioux City, May 13-15, 1914; Revised at Waterloo, May 12-14, 1915

ARTICLE I

Name of the Society

The name and title of this organization shall be the Iowa State Medical Society.

ARTICLE II

Purposes of the Society

The purpose of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Iowa, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws, to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III

Component Societies

Component societies shall consist of those county medical societies which hold charters from this Society.

ARTICLE IV

Composition of the Society

Section 1. This Society shall consist of Members, Associate Members, Delegates, Guests, and Life Members.

Sec. 2. **Members**—The members of this Society shall be the members of the component county medical societies.

Sec. 3. **Delegates**—Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Society.

Sec. 4. **Guests**—Any distinguished physician, not a resident of this state, may become a guest during any Annual Session upon invitation of the Society or its Council, and shall be accorded the privilege of participating in all of the scientific work for that session.

Sec. 5. **Life Members**—Life members shall consist of such members in good standing as shall have paid their full annual dues, and all other obligations to the Society for thirty successive years, and of such other worthy members as the Society may designate by unanimous vote. They shall receive the transactions of the Society, and enjoy all the privileges of members, but shall be excepted from payment of the annual dues.

Sec. 6. **Associate Members**—Teachers in any regular medical school, resident in Iowa, in no manner engaged in the practice of medicine, and not otherwise eligible to regular membership, may become ASSOCIATE MEMBERS of this Society, when elected ASSOCIATE MEMBERS of the component society of the county in which said teachers live. Such members shall be designated ASSOCIATE MEMBERS; they shall enjoy the same privileges as regular members and shall be subject to the same conditions.

ARTICLE V

House of Delegates

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1), delegates elected by the component county societies, and (2), ex-officio, the officers of the Society as defined in this Constitution.

ARTICLE VI

Sections and District Societies

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII

Sessions and Meetings

Section 1. The Society shall hold an Annual Session, during which there shall be held daily not less than two general meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII

Officers

Section 1. The officers of this Society shall be a President, two Vice-Presidents, a President-Elect, a Secretary, a Treasurer, eleven Councilors and three Trustees.

Sec. 2. The President-Elect and Vice-Presidents shall be elected for a term of one year. The Secretary and Treasurer for three years, and the Councilors for five years, the Councilors being divided into classes so that two shall be elected each year.

The Trustees shall be elected for three years, one each year. All these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Society shall be elected by the House of Delegates, on the morning of the last day of the Annual Session, but no delegate shall be eligible to any office named in the preceding section, except that of the Councilor and Trustee, and no person shall be elected to any office who is not in attendance upon that Annual Session and who has not been a member of the Society for the past two years.

Sec. 4. At the election of officers at the session of 1915 there shall be elected a President who shall enter upon the duties of his office at once, and also a President-Elect who shall enter upon the duties of the Presidency one year later. Thereafter, the President-Elect shall enter upon the duties of the Presidency one year from the date of his election.

ARTICLE IX

Funds and Expenses

Funds for meeting the expenses of the Society, shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Society and profession.

ARTICLE X

Referendum

At any general meeting the Society may by a two-thirds vote, order a general referendum upon any question pending before or passed by the House of Delegates, and the House of Delegates shall by a similar vote of its own members, or after a like vote of a general meeting, submit any such question to the membership of the Society for a final vote. A majority of the members voting shall decide the question and be binding on the House of Delegates.

ARTICLE XI

The Seal

The Society shall have a common seal, with power to break, change, or renew the same at pleasure.

ARTICLE XII

Amendments

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at the Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and shall have been published in the Journal of this Society.

BY-LAWS

CHAPTER I

Membership

Section 1. All members of the component county societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Society.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, or a receipt for dues for the current year from the Secretary or Treasurer of the county society to which he belongs, shall be prima facie evidence of his right to register at the Annual Session in the respective bodies of this Society.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. No member or delegate shall take part in any of the proceedings of an Annual Session until he has complied with the provisions of this section.

Sec. 5. For the purpose of medical defense a member shall be regarded as in good standing only when his dues have been received by the Secretary of the State Society; nor shall any member under suspension or expulsion be eligible to the benefits of the medico-legal fund for any alleged wrongful act while under suspension or expulsion.

Sec. 6. If the annual report and the per capita apportionment of any component society, is not received by the Secretary of the State Society for two consecutive years, then the charter of that society shall be automatically revoked, and the Secretary of the State Society, shall notify the Secretary of such society to that effect.

CHAPTER II

Annual and Special Sessions of the Society

Section 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session by the House of Delegates.

Sec. 2. Special sessions of either the Society or the House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

Sec. 3. The fiscal year of this Society shall be the calendar year.

CHAPTER III

General Meetings

Section 1. The general meetings shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions, and except guests, to vote on pending questions. Each general meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the session so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The general meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercise, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on any subject.

CHAPTER IV

House of Delegates

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall so fix its hours of meeting as not to conflict with the first general meeting of the Society, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as it is consistent with their duties. But if the business interests of the Society and the profession require, it may meet in advance, or remain in session after the final adjournment of the general meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year, one delegate for every fifty members, and one for each major fraction thereof, but each county society holding a charter from the Society, which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Society.

Sec. 4. It shall through its officers, advisory and

Councilors consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession and shall use its influence to secure and enforce all proper medical and public health legislation and to diffuse popular information in relation thereto.

Sec. 5. It shall make careful inquiry into the condition of the profession of each county in the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the state who can be made reputable has been brought under medical society influence.

Sec. 6. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 7. It shall, upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

Sec. 8. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies, and these societies, when organized and chartered, shall be entitled to all the privileges and representation provided therein for county societies, until such counties may be organized separately.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 10. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Sec. 11. It shall present a summary of its proceedings to the last general meeting of each Annual Session, and shall publish the same in the transactions.

CHAPTER V

Election of Officers

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect.

Sec. 2. On the first day of the Annual Session, there shall be selected a committee on nominations consisting of eleven delegates, one from each con-

gressional district, such committee shall be selected by the delegates of each congressional district in separate caucuses, and such caucuses shall at the same time select the member of the Council for the same district. It shall be the duty of this committee to consult with the members of the Society and to hold one or more meetings at which the interests of the Society and the profession of the state for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket containing the names of three members for the office of President-Elect (in 1915 President also), and one member for each of the other offices to be filled at that annual election, two candidates for President-Elect shall not be named from the same county.

Sec. 3. The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates, after the reading of the minutes, on the third day of the general session.

Sec. 4. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

CHAPTER VI Duties of Officers

Section 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie; and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and as far as practicable shall visit by appointment the various sections of the state and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. **Vice - Presidents**—The Vice - Presidents, when called upon, shall assist the President in the performance of his duties, and during his absence, or at the request of the President, one of them shall officiate in his place. In the case of death, resignation or removal of the President, the vacancy shall be filled by the Senior Vice-President beginning with the first. They shall perform all other duties prescribed for that office.

Sec. 3. The Treasurer shall give bond in the sum of \$10,000. Such bond to be procured from some reliable security company by the Trustees and to be approved by the Board of Trustees. The expense of procuring such bond to be paid by this Society. Said bond to be held by the Board of Trustees. All surplus money in the hands of the Treasurer shall be placed at interest in some bank approved by the Board of Trustees, and such interest shall be turned into the Treasury of the Society. The Treasurer shall demand and receive all

funds due the Society from the Secretary, together with the bequests and donations. He shall pay money out of the Treasury only on a written order of the President counter-signed by the Secretary and approved by the Board of Trustees. He shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands. He shall charge upon his books the assessment against each component society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him.

Sec. 4. The Secretary, acting with the committee on scientific work, shall prepare and issue the programs for and attend all meetings of the Society and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books and papers belonging to the Society, except such as properly belonging to the Treasurer, and he shall collect all assessments against each component society, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as chairman of the committee on publication. He shall employ such assistance as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates. In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the House of Delegates, and shall be paid quarterly. He shall give bond in the sum of \$10,000. Such bond to be procured from some reliable security company by the Trustees and to be approved by the Board of Trustees. The expense of such bond to be paid by the Society.

Sec. 5. The Board of Trustees shall have charge of the property and financial affairs of the Society, and shall meet quarterly, the expenses of such meetings to be paid by the Society as provided in Sec. 4, Chapter IX of the By-Laws, but this shall not be construed to include the expenses in attending the Annual Sessions.

CHAPTER VII

The Council

Section 1. The Council shall hold daily meetings during the Annual Session of the Society, and at such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Society for re-organization and for the outlining of work for the ensuing year. At this meeting it shall elect a chairman and Secretary, and it shall keep a permanent record of its proceedings. It shall, through its chairman make an annual report to the House of Delegates at such time as may be provided.

Sec. 2. Each Councilor shall be organizer for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. The Councilor may, when advisable, appoint a deputy or deputies to assist him in his work to carry out the requirements of this section. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each Annual Session of the House of Delegates. The necessary traveling, and other actual expenses incurred by such Councilor or his deputy, or deputies, in the line of the duties herein imposed, having been approved by the Board of Trustees, shall be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expenses in attending the Annual Session of the Society.

Sec. 3. Collectively the Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates of the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Society in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and Secretary of the Council, as such.

CHAPTER VIII

Committees

Section 1. The standing committees shall be as follows:

- A committee on scientific work.
- A committee on public policy and legislation.
- A committee on publication.

A committee on nominations.

A committee on necrology.

A committee on Constitution and By-Laws.

A committee on finance.

A medico-legal committee.

A committee on arrangements.

A committee on health and public instruction.

A committee to receive resignations and to fill vacancies, and such other committees as may be necessary.

Such committees shall be selected by the House of Delegates unless otherwise provided.

Sec. 2. The committee on scientific work shall consist of three members, consisting of the President, Secretary and Treasurer of which committee the President shall be chairman, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates or of the Society, or to the provisions of the Constitution and By-Laws. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

Sec. 3. The committee on public policy and legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence on local, state and national affairs and elections. Its work shall be done with the dignity becoming a great profession and with that wisdom which will make effective its power and influence. It shall have authority to be heard before the entire Society upon questions of great concern at such time as may be arranged during the Annual Session.

Sec. 4. The committee on publication shall consist of three members, of which the Secretary shall be one and chairman, and shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Society. It shall be empowered to curtail or abstract papers and discussions, and any paper referred to it which may not be suitable for publication in the transactions may be returned to the author. The committee shall have authority to arrange for the publication and distribution of the transactions after receiving competitive bids and shall use diligence in getting them into the hands of the members. All papers read before the Society shall be the property of the Society.

Sec. 5. The committee on necrology shall consist of all the members of the Council, who shall prepare for each session suitable biographical notices of deceased members.

Sec. 6. The committee on nominations shall be appointed and perform its duties in accordance with the provisions of Chapter V, Section 2 of these By-Laws.

Sec. 7. The committee on arrangements shall consist of the committee on scientific work and two members elected by the component society in the territory in which the Annual Session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting places of the Society and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 8. The medico-legal committee shall consist of three members, all of whom shall serve without pay. The term of service of each member shall be three years, provided that in the original organization of this committee the service shall be grouped by lot into three divisions with terms expiring in one, two and three years respectively from July 1, 1907. On and after July 1, 1907, it shall be the duty of the members of this committee severally or collectively, to investigate all claims of malpractice against members, to adjust such claims in accordance with equity where possible, and if, in their judgment, an adjustment is impossible, or the claim is unjust or the damage sought is excessive, to lend such help, aid and council as they may deem proper, but they shall not pay, or obligate the Society to pay, a judgment against any member; nor shall they pay or obligate the Society to pay for legal counsel not authorized by the medico-legal committee, or to pay the court costs of any suit.

They shall effect such organization as they see fit, and adopt rules for their guidance, and for the guidance of members of the State Society in medico-legal matters. They shall be empowered to contract with such agents (attorney or other) as they may deem necessary. They shall have charge of the medical defense fund, which fund shall be secured as follows: Each member of the State Society shall be assessed \$2.00 a year for this fund alone. This assessment shall be paid along with the other state dues, and through the same channels, it shall be kept in the treasury of the Society, and shall be subject to warrants signed conjointly by the chairman and the Secretary of the medical defense committee, and approved by the Board of Trustees.

Sec. 9. The committee on health and public instruction shall consist of three members. The term of service of each member shall be three years, provided that in the original organization of the committee, the services shall be grouped by lot, into three divisions, with terms expiring one, two and three years respectively from the 1914 Annual Session. It is further provided that at least one member of the committee shall be a woman.

Sec. 10. The committee to receive and act upon

resignations and to fill vacancies, shall consist of all of the members of the Council, whose duties it shall be to receive and act upon all resignations presented between the Annual Sessions, and to fill by appointment vacancies by reason of any cause whatsoever which may occur between the Annual Sessions, and which are not otherwise provided for.

CHAPTER IX

Assessments and Expenditures

Section 1. An assessment of four dollars per capita on the membership of the component societies is hereby made the annual dues of this Society. The Secretary of each county society shall forward its assessments together with its roster of all officers and members, list of delegates and list of non-affiliated physicians of the county to the Secretary of this Society on or before January 1st prior to each Annual Session.

Sec. 2. Any county society which fails to pay its assessment, or make the reports required, on or before February 1st, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Board of Trustees before being presented for final action to the House of Delegates.

Sec. 4. The necessary expenses of conducting the business of this Society during the interval between the Annual Sessions, on approval by the Trustees, shall be paid by the Treasurer on a written order of the Secretary countersigned by the President, and a report of said expenses and expenditures shall be made by the Secretary to the House of Delegates, at the annual meeting.

CHAPTER X

Rules of Conduct

The principles set forth in the code of ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XI

Rules of Order

The deliberations of this Society shall be governed by parliamentary usage as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII

County Societies

Section 1. All county societies now in affiliation with the State Society or those that may hereafter be organized in this state which have adopted prin-

ciples of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the state in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Society. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made with the aid of the Councilor for the district if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who is practicing or will agree to practice non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council and to the House of Delegates.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this state, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living near a county line may hold his membership in that county society most convenient for him to attend provided no objection is made by the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county, and system-

atic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the Annual Session of this Society, each county society shall elect a delegate to represent it in the House of Delegates of this Society in the proportion of one delegate for each fifty members, and one for each major fraction thereof, but each county society holding a charter from this Society, which has made its annual report, and paid the assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 12. The Secretary of each county society, shall keep a roster of its members, and a list of non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. He shall furnish an official report containing such information upon blanks supplied him for the purpose, to the Secretary of this Society, on or before February 1st, of each year. In keeping such roster, the Secretary shall note any change in the personnel of the profession by death, or by removal, to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

CHAPTER XIII

Amendments

These By-Laws may be amended at any Annual Session by a majority vote of all the delegates present at that session, after the amendments have laid upon the table for one day.

CHAPTER XIV

The Journal

Section 1. The House of Delegates shall establish an official journal of the Iowa State Medical Society, which shall be called The Journal of the Iowa State Medical Society.

Sec. 2. The Journal shall be published monthly, and mailed not later than the 15th of the month, and it shall contain the papers and proceedings of the annual meeting and such other matter as is of interest to the members.

Sec. 3. The Journal shall contain not less than forty-eight pages per issue and editorials shall be given a prominent part.

Sec. 4. An Editor shall be elected by the House of Delegates for a period of three years, his salary shall be fixed by the Trustees, and shall be paid quarterly, and shall include all office assistance and rent. Salaries and expenses shall be paid by the Treasurer on a written order of the Secretary countersigned by the President when authorized by the Board of Trustees.

Sec. 5. An allowance shall be made for necessary office supplies and postage.

Sec. 6. The printing and mailing of the Journal shall be let by the Trustees on yearly contract conforming to required specifications, and expenses accruing therefrom shall be paid quarterly by the Treasurer on a written order of the Secretary countersigned by the President when authorized by the Board of Trustees.

Sec. 7. The advertising policy shall be that of the Journal of the American Medical Association.

Sec. 8. The committee on publication shall have oversight of the publication of the Journal subject to the order of the House of Delegates and shall fill vacancies as they occur. The Trustees shall audit the books of the Editor and authorize any contract which may be necessary.

Sec. 9. The committee on publication together with the Editor shall have editorial control of the Journal, and shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society.

Sec. 10. All reports on scientific subjects and all scientific discussions and papers heard before the Society shall be referred to the Journal for publication. The Editor with the consent of the majority of the committee on publication may curtail or abstract papers not considered suitable for publication.

Sec. 11. All moneys received by the Editor shall be turned over to the Treasurer at the end of each month.

BOOK REVIEWS

A PRACTICAL TREATISE ON DISEASES OF THE SKIN

By Oliver S. Ormsby, M. D., Professor of Skin and Venereal Diseases in the Rush Medical College, Chicago. Octavo 1168 Pages With 303 Engravings and 39 Plates in Colors and Monochrome. Cloth, \$6.00 Net. Lea & Febiger, Publishers, Philadelphia and New York.

The famous dermatologists, Drs. J. Nevins Hyde and Frank H. Montgomery developed this branch of medicine in Chicago to a degree unrivalled in this country. Among the group of men that grew up under the influence of Dr. Hyde was Dr. Oliver S. Ormsby, the author of the volume under review. Dr. Hyde was not one of that number who feared to surround himself with strong young men, but rather sought to encourage them and to keep alive, through them, the spirit of progress.

In this new book Dr. Ormsby has used parts of Hyde and Montgomery's work on skin diseases. Since the publication of Hyde and Montgomery many new diseases have been differentiated and new facts discovered in relation to others. Clearer and better methods of diagnosis and treatment have been brought out and these have been incorporated in this work with much that was taken from the

work of his distinguished associates. Dr. Ormsby's book may therefore be regarded as the worthy successor of Hyde and Montgomery.

SURGERY OF THE BLOOD VESSELS

By J. Shelton Horsley, M. D., F. A. C. S., Surgeon in Charge of St. Elizabeth's Hospital, Richmond, Virginia; 304 Pages. Price, \$4.00. C. V. Mosby Co., St. Louis.

The interest attached to blood-vessel surgery which has grown out of the work of Murphy, Matas, Crile, Halstead and particularly of Carrel and Guthrie, has been the incentive of Dr. Horsley to prepare a monograph on the subject which shall in a convenient form present what has been accomplished in this direction. The book begins with a chapter on the histologic repair of blood-vessels with another chapter on the indications for blood-vessel suturing. The history of blood-vessel surgery begins with ligation; then attempts at suturing which were mostly failures until Murphy's successful methods in 1897 and the final combination of the best methods by Carrel in 1902, since which time suture of blood-vessels has become an approved method of dealing with injured blood-vessels.

The difficulty in reaching success in suturing blood-vessels was the occlusion by coagulation of blood which is difficult to prevent, and necessarily requires a most perfect technic, which is fully elaborated in this book. Passing from the technic of suturing, the author takes up Transfusion of Blood, and gives a brief history of the procedure, to the work of Crile who began his experiments in 1898 and Carrel in 1902. These workers succeeded in bringing out a successful technic which can be applied by a fairly skilful operator. Other experimenters have contributed materially to the work, notably McGrath of the Mayo Clinic. There are two types of transfusion, the direct and indirect. The technic and indications are fully pointed out. An important chapter deals with the Prevention and Treatment of Thrombosis and Embolism, common accidents in surgery, often disastrous in their effects. The Treatment of Aneurisms from the time of Val-salva and Albertine in 1728 to Matas and Allen is reviewed. Varicose Veins, Varicocele and Hemorrhoids are also considered. This book does not claim to present any new or original methods, but to furnish to the general surgeon a convenient exposition of the best methods of treating accidents and diseases of the blood-vessels.

INFECTION AND IMMUNITY

A Text-Book of Immunology and Serology. For Students and Practitioners. By Charles E. Simon, B. A. M. D., Professor of Clinical Pathology and Experimental Medicine, College of Physicians and Surgeons, Baltimore. Third Edition, Enlarged and Thoroughly Revised, 1915. Octavo, 351 Pages. illustrated. Cloth, \$3.25 Net. Lea and

Febiger, Publishers, Philadelphia and New York.

In reviewing this book on Immunity we recall with much satisfaction the prediction made in our President's Address before the Iowa State Medical Society—now just twenty years ago—that Immunology was the line of future progress in medicine. At that time we were but fairly started in the great work, but enough had been accomplished to make predictions reasonably safe. We have now before us the third edition of a book entirely devoted to this subject, for the use of practitioners and students. It is only two years since the second edition was issued and yet a "call for a new edition" gives the author the opportunity to present some entirely new matter. The section on the Wassermann reaction needed to be almost entirely rewritten and many other changes made, all showing the present activity in medical research.

The first section of the book is given to a consideration of Infection, Virulence, Infectiousness and Aggressivity; followed by a chapter on the Defensive Forces of the Micro-organism; then comes the Bactericidal Substances in the Blood, the Mechanism in Infections; Antigens and Antibodies. In this section which presents the aggressive and defensive features of infections an elaborate discussion of the complexities of the subject is offered that will make clear to the mind of the student the true meaning and the logical relation of the long series of investigations which have lead up to our present knowledge of infections.

A consideration of the pathogenic micro-organisms that enter the animal body, shows the deleterious influences by which we are surrounded and the importance of the defensive factors of the animal body in what is known as immunity inherent in the body or "natural immunity." There are many conditions that affect natural immunity which are set forth in Chapter IX. After presenting what is known of decreased resistance or Anaphylaxis, the author passes to the discussion of Active Immunization, as to how far we can go in increasing immunity artificially. It is in this direction that many recent advances in medicine have been made, and in which the future looks large. Several chapters are devoted to the theories and methods of artificial immunization in infectious diseases.

The remaining chapters are given to Chemotherapy which includes the work of Ehrlich and his assistants, and is best illustrated in the use of Salvarsan in the treatment of Syphilis. The last chapter deals with the Application of Immunological Principles to Diagnosis. It may be assumed that no modern practitioner of medicine can afford to be without the knowledge offered by this book.

MATERIA MEDICA AND THERAPEUTICS

A Text Book for Nurses. By Linette A. Parker, B. Sc., R. N., Instructor in Nursing and Health, Teachers College, Columbia University. 12 mo., 311 Pages, Illustrated

With 29 Engravings and 3 Plates. Cloth, \$1.75 Net. Lea and Febiger, Publishers, Philadelphia and New York, 1915.

This is a very well prepared book for the object intended. In its thirty chapters sufficient detail is given for the nurse's instruction. The illustrations are well chosen. The lists of questions for review in many of the chapters is a good idea. Brief, but comprehensive chapters on the Harrison Law, Psychotherapy, Hydrotherapy, Serums and Vaccines, and X-ray Therapy are included. Altogether a very practical book.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series. Volume 36. Printed for the College, 1914.

The volumes published by the College are of great value in that they contain exhaustive papers prepared by the most famous physicians and surgeons of Philadelphia. In no other publication do we find more valuable contributions to the science of medicine and surgery.

DR. EVERETT A. GRAHAM LOCATES IN MASON CITY

Dr. Everett A. Graham, of Chicago, one of the instructors in Rush Medical College, has accepted the position of Chief Surgeon of Park Hospital, Mason City. Dr. Graham will continue his connection with Rush Medical College until the end of his college year, giving two days a week to Rush Medical College and the remainder of the time at Mason City. At the close of this year's arrangement with Rush, he will give his whole time to work at Mason City.

LEGALIZATION OF ABORTION IN FRANCE.

The question of legalizing abortion has come up in France in relation to French women outraged by German soldiers. The prospective mother protests against bearing the fruit of forced union with the hated German. So odious to these women is the situation that they have appealed to the medical profession for relief. Many physicians influenced by sympathy have advocated this procedure. The majority opinion, according to the Boston Medical and Surgical Journal, is against the induction of abortion for any other reason than the saving of the mother's life, and cites Professor Landouzy of the University of Paris in support of this contention. To avoid settling the hardship of caring for these unwelcome offspring upon the mother, M. Maloy has suggested the abandonment of these children to the state, which has been adopted, and will bring them up as foundlings.

SOCIETY PROCEEDINGS

The meeting of the Appanoose County Medical Society, was held Wednesday, June 30, 1915, 7:30 P. M., in the society assembly room of Drake Free Public Library. Following is the program:

General Subject

Factors Essential in Developing Office Practice

The Advantages of Dispensing

Dr. H. C. Hoch, Cincinnati

The Advantages of Prescription Writing

Dr. C. P. Tillmont, Centerville

Thoroughness and Routine in Physical Examination

Dr. C. S. James, Centerville

The June meeting of the Buchanan County Medical Society was held at the Country Club, Independence, Wednesday June 2nd. The visiting physicians were entertained at an informal luncheon at the Fisher Hotel, after which adjournment was taken to the Country Club where the scientific program was given. The society was fortunate in having Dr. Charles J. Rowan, of Iowa City, on the program. Dr. Rowan gave a very interesting and instructive talk on "Bone Surgery" with lantern demonstrations. Other features of the program were: a report of a case of "Intermarriage" by Dr. B. G. Bissell, of Aurora, and a paper by Dr. F. F. Agnew, of Independence, on the "Importance of Urinalysis as a Routine Practice." Favorable action was taken on the suggestion that the society furnish loving cups to be given as prizes in the Baby Contest to be held during the county fair in August.

The twenty-second annual meeting of the Davis County Medical Society was held at the public library in Bloomfield, June 24th.

The session convened at 10:30 A. M. Dinner was served at the Commercial Hotel. The program was as follows:

President's Address—Dr. H. N. Baker, Floris, Iowa.

Infections—Dr. Ralph Selman, Blakesburg, Iowa.

Bacterial Vaccines—Dr. J. L. Saar, Cantril, Iowa.

Lymphoid Leukemia—Dr. E. E. Parrish, Memphis, Mo.

Laboratory Methods—Dr. Paul Guernsey, Bloomfield.

Address—Dr. J. F. Herrick, Ottumwa, Iowa.

Skin Diseases—Dr. N. Y. Sellars, Moulton, Iowa.

Paper—Dr. J. A. Repogle, Udell, Iowa.

Report of State Meeting—Dr. Clara Cronk, Bloomfield.

A meeting of the Delaware County Medical Society was held on Tuesday afternoon at the Council Chamber in Manchester. Those in attendance were Drs. H. M. Bradley, J. J. Lindsay, H. A. Dittmer, T. J. Burns, and E. G. Dittmer, all of Manchester, Dr. A. J. Meythaler of Earlville, Dr. Dittmer of Colesburg, Dr. L. J. Bowman of Masonville and Dr.

DunVon of Robinson. Dr. H. A. Dittmer, who was a delegate from the Delaware County Society to the state meeting held at Waterloo in May, gave a brief talk regarding the convention.

Interesting papers were read by Drs. Bowman and H. A. Dittmer and the same were discussed by other members of the society who were present.

The Floyd County Medical Society had a very pleasant and instructive meeting at Marble Rock June 9th. No papers were prepared, but the Chicago Abortion Crusade from the standpoint of preventative measures was discussed and the inefficiency of all well meant crusaders admitted. A unanimous resolution was passed, requesting the State Society, to agitate the abolishment of such laws, as forbid prevention of conception. A committee was appointed to formulate these resolutions.

After a number of interesting cases, reported by every member, had been discussed, the twelve men present partook of a bountiful dinner tendered by that king of entertainers, Dr. C. J. O'Keefe, of Marble Rock.

It was voted the most successful meeting held in many years.

The Greene County Medical Society met at Hotel Head on the 8th of June. A paper by Dr. John Peck of Des Moines, "Tuberculous Infections in Childhood" was appreciated by all. A good discussion followed. There is an improvement at each meeting in interest and zeal for the society. Papers will be read by five of the members at the September meeting.

The summer meeting of the Hancock-Winnebag County Medical Society will be held at Forest City, Wednesday, July 28th. The program will be as follows:

Diagnosis of Gall-Bladder Disease—Dr. W. A. Dennis, St. Paul.

Some Phases of Bone Pathology as Applied to Clinical Surgery—Dr. E. A. Graham, Mason City, formerly professor of surgery at Rush Medical College.

If the weather is favorable, the meeting will be held in the country four miles from Forest City at "Sunnyside Farm," where recently in the erection of a spacious farm house by the father of Dr. H. F. Thompson, of Forest City, a large assembly room was provided, principally for the use of the rural community for debates or other gatherings. The county medical society is to have a picnic dinner here on the above date and the program will follow in the afternoon on the lawn, if the weather permits, otherwise in the assembly room. An invitation is extended to every physician in northern Iowa to be present with his wife and as many of the children as he desires. "Bring the family basket, and get your feet on the ground again, brothers. It will do you good to get out under the trees and forget for a while that you are practicing medicine."

The Jasper County Medical Society met at Newton, Tuesday, June 22nd. This society is one of the oldest county organizations in the state and has recently been trying the experiment of holding the meetings in the evening, instead of having the usual day sessions. This experiment has been found to be so very successful that it has been decided to hold quarterly meetings instead of semi-annual meetings as in the past.

The next meeting of the Society will be held at Colfax in September. The program was as follows:

President's Address—Dr. S. E. Hinshaw, Newton.

Focal Infection, Its Relation to Systemic Disease in Man—Dr. J. C. Hill, Newton.

Pituitary Extract and Its Use in Labor—Dr. R. W. Wood, Kellogg.

Paroxysmal Tachycardia—Dr. J. L. Taylor, Monroe.

Report of Delegate to State Society—Dr. H. P. Engle, Newton.

The Jones County Medical Society held a meeting at the council rooms at Monticello June 8th. Papers were read by Dr. J. M. Young of Center Junction, and Dr. J. E. Davies of Oxford Junction, and a discussion on the County Poor Contract was led by Dr. Redmond of Monticello. The following officers were re-elected: President, Ben H. Chamberlain, Wyoming; vice-president, J. M. Young, Center Junction; secretary and treasurer, T. M. Redmond, Monticello.

The Kossuth County Medical Society met at Algona June 8th. Dr. Eli Grimes, of Des Moines, gave an address on Pyloric Spasm. A paper was given also by Dr. J. A. Divine of Bancroft. The physicians and their wives were entertained at dinner by the Algona physicians and their wives at the home of Dr. and Mrs. C. D. Fellows.

The thirteenth annual meeting of the Linn County Medical Society was held at the Montrose Hotel, Cedar Rapids, Iowa, June 8th, with nearly one hundred members present. The annual election of officers resulted as follows: President, Frank S. Skinner, Marion; vice-president, Roy K. Keech, Cedar Rapids; secretary, J. E. Stansbury, Cedar Rapids; treasurer, Harry M. Ivins, Cedar Rapids.

The annual dinner at 6:00 P. M. formed the social part of the evening. This was followed by the scientific program:

Technique in the Practice of Medicine—Dr. W. J. Morrison, Cedar Rapids.

The Diagnosis of Functional from Organic Disease of the Nervous System—Dr. Hugh T. Patrick, Chicago, Ill.

The paper by Dr. Patrick was given in his usual clear and practical manner, and was one of unusual interest because of its dealing with problems that every man meets in practice.

This is the last of the series of meetings for the year. The next series will begin sometime in October.

The Northwestern Iowa Medical Society was organized at Sheldon, May 28th. At present two meetings a year will be held, one in April and one in October. It is not the intention to replace the county societies until the new society has had an opportunity to prove that it would be more desirable than the present plan. The officers are: President, Dr. W. H. Myers, of Sheldon; vice-president, Dr. L. L. Corcoran, of Rock Rapids; secretary-treasurer, Dr. Jay M. Crowley, of Rock Rapids. The next meeting will be held in October at Sheldon.

The Plymouth County Medical Society held a meeting on Thursday evening May 27th in Le Mars at the office of Dr. W. A. Shepard. Officers elected for the year were as follows: Dr. W. A. Shepard, of Le Mars, president; Dr. W. Kerr, of Akron, vice-president, and Dr. T. E. Cole, of Le Mars, secretary and treasurer. Dr. Cole was elected secretary to succeed Dr. F. S. Clarke, who has left Le Mars to engage in post graduate work in New York.

The society will endeavor to secure a larger attendance at the meetings this year and get the members of the medical profession in the county to meet oftener and exchange ideas.

ROCK ISLAND COUNTY MEDICAL SOCIETY AND SCOTT COUNTY MEDICAL SOCIETY

At a joint meeting of the Rock Island County Medical Society and the Scott County Medical Society held at Davenport June 8th, Dr. G. W. Crile of Cleveland, presented a very interesting and enlightening discussion of some of the features of the European war from the standpoint of Chief of the Western Reserve University Hospital Unit operating in Paris. Dr. Crile, as is well known, is a man of acute conception, and has a just appreciation of the value of services rendered in any department of human endeavor, and presented from the efficiency point of view what is being accomplished in these hospitals. Of course he made some mention of the horrors of the war, but it was chiefly from the efficiency point that he devoted his remarks.

After giving this illustrated lecture upon his observations of the war in Europe, he took up the main topic of the evening, which was "The Phenomena of Acidosis and its Dominating Influence in Surgery." Dr. Crile called particular attention to the influence of certain conditions upon brain cells, upon liver cells, and suprarenal cells. The conditions especially referred to were the effects of shock from injury, the effects of fright, anger, exhaustion, loss of sleep, and infection. Applying this to war conditions, it undoubtedly had a decided bearing upon the efficiency of soldiers who were subject to exhausting influences and loss of sleep. The unexampled condition of warfare existing in Europe, brings the two elements of exhaustion and loss of sleep more prominently into play than in any other war known to history. It would not be strange when the his-

tory of this war is written that some unaccountable and unexpected occurrences were due to the influences of exhaustion and want of sleep. Dr. Crile dwelt upon conditions that tend to produce an acidosis, and how such conditions could be prevented. He showed how the use of morphine would lessen the influence of shock upon the brain and lessen the dangers from ether anesthesia, whereas in an acid condition of the blood, the administration of opium after an operation would perhaps destroy the only chance the patient had of recovery. Dr. Crile furthermore considered the advisability of careful examination of the patient in anticipation of deliberate operative procedures, and when from the evidence there was danger of severe shock of the nervous system, producing acidosis, then some preliminary treatment should be undertaken; for instance the administration of carbonate of soda and rest from all exciting influences and the free administration of water. The beneficial influence of plenty of fluid in the system, would at least be suggestive to surgeons who have felt the necessity of copious watery discharges from the bowels preceding an operation.

A particularly helpful thing in Dr. Crile's discussion was the demonstration by slides of the effect of certain conditions upon the brain and cells of other important organs, and how this deleterious effect could be lessened by judicious application of measures that are easily within the reach of every practitioner.

Through the wise management of Dr. John Littig and Dr. M. L. Allen, the interest of the meeting was added to by a very elaborate dinner, and a few speeches that led to the conclusion that Davenport was settled immediately after De Sota discovered the Mississippi River. Dr. Allen was of the opinion that a considerable percentage of the medical profession present had inherited some of their peculiarities directly from their Indian ancestors.

DES MOINES VALLEY MEDICAL ASSOCIATION

The Des Moines Valley Medical Association held its forty-fourth annual meeting June 17th at Ottumwa. The average attendance was present and the meeting was unusually interesting and instructive.

In the absence of the president, Dr. F. W. Bowles of Ottumwa, the first vice-president, Dr. Wm. Downing of Moulton, presided. The meeting was called to order at 9:30 A. M. and invocation given by Rev. Holler of Ottumwa. After the disposal of the usual business of the society the literary program was rendered as follows:

The first paper was: "The Medical Treatment of Gastric Ulcer" by Dr. O. W. King of Montezuma. Owing to the absence of Dr. King, Dr. J. F. Herrick of Ottumwa read the paper which consisted of a resume of the medical treatment of gastric ulcer as outlined by Dr. Sippe of Chicago. The author of the paper, Dr. King, having been both a patient and

a student of Dr. Sippe gave a very comprehensive and concise outline and description of the treatment. This paper brought forth quite a free discussion from several members and the consensus of opinion seemed to be very favorable to the medical treatment as outlined by Sippe for this class of cases.

The next paper read was: "Measles" by Dr. E. W. Gardner of Webster, Iowa, which was a very complete paper dealing with this common malady in a very broad-minded way, laying special stress upon the fact that the medical profession up to this time has been unable to prevent or render less active the course of the disease. As is known to all of the medical profession the disease itself very rarely produces any serious results; the complications, which are many, are serious, and but very few cases escape without having some of the many complications; and both the medical profession and the laity are very likely not to give these complications the proper consideration. This paper also brought out quite a free discussion which was principally in the form of emphasis on the points made in the paper by Dr. Gardner.

"Lessening the Risk of the Surgical Patient" was the subject of the paper by Dr. H. M. Decker, of Davenport. This paper evinced a large amount of original clinical work. Dr. Decker supported Dr. Crile's Anoci association principles, by the use of nitrous oxide and oxygen for general anesthesia and the use of novocain and urea hydrochloride for local purposes. The essayist expressed the opinion that in the preparation of patients, the patient should not be subjected to drastic catharsis and should be in the hospital at least twenty-four hours, and better if longer, and that all patients should receive a preliminary dose of morphine before going to the operation, and that all pain subsequent to operation should be controlled by opiates.

There was an intermission at this time, of an hour and a half for luncheon at the First Congregational Church. After luncheon the society was favored with a very interesting talk by Dr. W. E. Schroeder of Chicago, on the subject of "Hydro-Nephrosis and by the use of lantern slides Dr. Schroeder demonstrated very clearly that the cause of hydro-nephrosis was obstruction of the ureter, either by a foreign body within the lumen or by malposition of the kidney or the ureter showing by experimental work upon dogs the degree of destruction caused within the kidney by a given time of obstruction. These experiments ranged from twelve hours of obstruction up to thirty days. Following the views showing the experimental work upon dogs, several slides were shown that demonstrated similar conditions in the human and proved conclusively that the partial obstruction over a long period of time would cause a hydro-nephrosis and total obstruction would cause a complete hydro-nephrosis with complete destruction of all general functioning kidney structure.

Dr. W. C. Boone of Ottumwa, read a paper on "Root End Infections." Dr. Boone gave a very

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(Continued From Page 310)

complete resume of the recent literature and research work that is being done upon this very important subject, not only giving his own clinical experience and observations which consisted of many hundred cases but also that of his colleagues in various sections of the country. The principal points which were emphasized by the essayist were that root end infections were of hematogenous origin due to the fact that a devitalized tooth acted as a foreign body and in consequence thereof the adjacent tissue had a lowered vitality due to lack of proper nutrition from faulty blood supply; and, as has been demonstrated, these root end infections are responsible for other infections in the body and that by the removal of the abscesses the other conditions were relieved and in most cases permanently cured. The essayist also brought out the fact that a large percentage of filled teeth which had been devitalized showed root end infections by examination with the X-ray. It was his opinion that a great many of our so-called rheumatisms and arthritis deformans and other joint infections could be relieved by giving proper treatment of the root end abscesses, assuming of course, that all other sources of infection in the body had been eliminated. He felt that it was the duty of the M. D.'s to call the dentist in consultation in these cases and vice-versa.

The next paper was "Diagnosis of Gastric Ulcer" by Dr. C. L. Van Epps of Iowa City. This was a well prepared paper and gave in detail the classical, symptomatology of the condition from the standpoint of the clinician, physiologist and pathologist, emphasizing the fact that it was necessary to have evidence of both laboratory and clinical findings and then it was not always possible to make an accurate diagnosis.

Dr. W. E. Vest of Des Moines, gave an excellent paper on "Pituitaran" dealing with the various uses of this drug but more especially its use as a post-operative adjuvant, reporting as having used it in fifty cases in the last six months with very flattering results in that the patients were relieved of practically all abdominal distention and that a cathartic was seldom needed when this drug was used. He also dealt with the indications and contra-indications for the use of the drug, especially recording of the blood pressure.

The literary program of the day was concluded by Dr. J. B. Robb of Russell, giving a paper on "A Rare Palpation Sign in the Abdomen" (with the report of two cases). The principle point brought out in this paper was, that, when there is a partial or nearly complete obstruction of the onflow of the bowel contents there is sort of a rebound that produces a peculiar thrill just proximal to the point of obstruction. The doctor reported two cases both of a malignant character eliciting the above symptoms.

The officers elected were: President, M. Childress, Oskaloosa; vice-president, M. F. Moore, Martinsburg; second vice-president, A. Guamer, Fairfield; secretary, E. B. Howell, Ottumwa, re-elected.

E. B. H.

CORRECTION

The item in regard to the organization of the Northwestern Iowa Medical Association on page 259 of the June issue of the Journal was in error. This item referred to the temporary organization at Sheldon, April 16th.

MARRIAGES

Dr. Valentine T. Doering to Miss Elsie Schroeder, both of Ft. Madison, June 24th.

Dr. Thomas A. King, of West Union, to Miss Grace Gilbert, of Monona, June 16th.

Dr. J. Lynn Crawford, of Cedar Rapids, to Miss Grace Crawford, of Marion, June 9th.

Dr. John A. Sanders, of Council Bluffs, to Miss Marguerite Murphy, of Omaha, June 16th.

Dr. Edward Ash, of Council Bluffs, to Miss Eleanor M. Whitney, of Atlantic, June 12th.

Dr. Marcus H. Lynch, of Templeton, to Miss Nellie Signall, of Manning, June 2nd.

Dr. George F. Kelleher, Elkader, to Miss Carrie Baker, of Dubuque, June 2nd.

DEATHS

Hiram Neill, M. D., for nearly thirty years a practicing physician at Sibley, formerly a member of the Osceola County and Iowa State Medical Societies, died recently at his home at San Gabriel, Cal. from carcinoma of the stomach, aged seventy.

James Sloan, M. D., Jefferson Medical College, coming to Winterset in 1869 where for many years he had an extensive practice, died at his home at Winterset, May 23rd, aged ninety.

Samuel E. McCreary, M. D., Miami Medical College, from 1896 to 1901, a practicing physician at Keokuk, died at his office in Keokuk from apoplexy, May 28th, aged fifty-eight.

John F. Harrington, M. D., Keokuk Medical College, 1895; member of the Mitchell County and Iowa State Medical Societies; for several years a practicing physician at Stacyville, died at St. Francis Hospital, Waterloo, following an operation for appendicitis, June 2nd, aged forty-four.

George M. Nesbit, M. D., of Waterloo, died June 25th, at his home from apoplexy, aged fifty-two.

James J. McConkie, M. D., Starling Medical College, Columbus, O., 1864. After practicing in Ohio and Michigan, Dr. McConkie came to Cedar Rapids in 1888, practicing his profession for many years. The aged physician died at the home of his son, Dr. W. A. McConkie, Cedar Rapids, from carcinoma of the stomach, aged eighty.

Walter Frank Hammitt, M. D., University of Nebraska College of Medicine, 1913, a practicing physician of Union met his death by the capsizing of a boat on the Iowa River near his home June 21st, aged thirty.

Maurice J. O'Connor, M. D., Northwestern University Medical College, 1903; a practicing physician for twelve years at Williams, died at Mercy Hospital, Webster City, June 6th. Death was caused by internal injuries—several broken ribs penetrating

the lungs—received when his automobile plunged down an embankment near Williams June 5th, aged thirty-eight.

CHANGES OF LOCATION

Dr. J. F. Schaefer, of Rome, has removed to Keota.

Dr. M. B. Murray, of Waterloo, has located in Atlantic.

Dr. J. F. Sparks, of Westgate, has purchased the practice of Dr. J. F. Auner, of Waverly.

Dr. F. A. Saum, of Chariton, has sold his practice to Dr. F. C. Scott, of Adrian, Ill. Dr. Saum will go south for the benefit of his health.

Dr. E. T. Warren, of Pella, has removed to Stuart where he has purchased the practice of Dr. W. R. McGrew. Dr. McGrew will locate in Omaha.

MEDICAL NEWS

Dr. Perry Engle, of Newton, has fully recovered from his recent automobile accident.

Dr. B. C. Hamilton, Jr., has returned to his practice after a month's vacation in the south.

Dr. C. W. Blake, of Jefferson, will spend the summer at points of interest on the western coast.

Dr. H. W. Bowers, of Nevada, fractured the radius of his right arm while cranking his automobile.

Dr. J. J. Daly, of Decorah, attended the Northwestern alumni week clinics in Chicago recently.

Dr. E. C. Rawson, of Strawberry Point, attended the alumni banquet of Northwestern University in Chicago.

Dr. T. F. Kelleher, of Des Moines, has returned from Battle Creek, Michigan, somewhat improved in health.

Dr. C. S. Woods has resigned his position as state epidemiologist and professor of preventive medicine at the State University, Iowa City.

Dr. J. H. Shipley, of Rippey, is in Chicago to consult a bone specialist in regard to his arm that was injured in an automobile accident several weeks ago.

Dr. G. E. Birney, of Estherville, who contracted blood poison from a slight needle wound in his hand while amputating the arm of a patient having lock jaw, is improving under the serum treatment.

Dr. Albert H. Beifeld, of the University of Michigan, has been called to the State University at Iowa City as professor of pediatrics and head of the new \$40,000 detention hospital soon to be erected.

Dr. J. M. Howe, of Hillsboro, Lee county, a short time ago, had a narrow escape from death when a C. B. & Q. engine struck his automobile on a grade crossing. The doctor suffered a severe scalp wound, fractured shoulder and several lacerations and bruises.

A meeting of the Board of Trustees of the Iowa State Medical Society was held at the Des Moines Club, Des Moines, June 30th for the transaction of the regular routine of business. Dr. D. H. Bowen, of Waukon, and Dr. J. N. Warren, of Sioux City, were present and were entertained at the home of

the chairman, Dr. Granville N. Ryan, 1411 Capitol avenue.

The physicians of Newton have organized a local club, meeting twice a month at which time papers are read and matters of local interest discussed. Meetings close with a lunch and a social time. At a recent gathering Dr. Harry Engle read a paper on "Iritis" and Dr. E. E. Besser, on "Endocarditis." A project is now under way in Newton for the erection of a modern fireproof hospital.

Dr. J. E. King, of Eldora, celebrated the ninetieth anniversary of his birth, June 3rd, at the home of his son O. J. King, Eldora. There were present four sons, one daughter, several grand children, and one great grand child. The doctor was the recipient of many cards and telegrams from physicians over the state. Dr. King came to Eldora in 1861, where he practiced his profession for many years.

The condition of the roads from the heavy rains interfered with the session of the Northeastern Iowa Medical Association at Decorah, June 10th. However, fourteen doctors, including Drs. Van Epps, of Iowa City; Jackson of Prairie du Chien; Guthrie, Lewis and Harris, of Dubuque; Clark, of McGregor, and others, were in Decorah, for the meeting. The doctors visited the park and had dinner at the "Winneshek." The program was postponed until a later date.

HOSPITAL NOTES

Dr. E. E. Bamford, of Centerville, and others are working hard to raise \$15,000 for a hospital at that place.

Drs. C. E. Conn and G. A. Hartley, of Battle Creek and Dr. A. H. Rasburg, of Dennison, have purchased the Denison Hospital for \$6,000.

The new \$25,000 nurses' home in connection with the Burlington Hospital has recently been completed. The foundation for the fund for building this fine home was the Millard bequest of \$11,000 to the Burlington Hospital.

A vigorous effort is being made to liquidate the indebtedness on the hospital at Shenandoah in order that the hospital may be continued. Why is it so hard sometimes to raise money for institutions maintained for the service of humanity?

An effort is being made to provide for the levying of a special tax for the erection of a county hospital in Delaware county to be located at Manchester. This hospital to be on the plan of the Fayette county and the Washington county hospitals.

Plans have been completed for the erection of a nurses' home costing \$25,000 in connection with the Jennie Edmundson Memorial Hospital, Council Bluffs. This will be a three story building erected on the hospital grounds and will be modern in every respect, and designed for the comfort of the nurses and the superintendent of the hospital, and will include a well equipped gymnasium in the basement.

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No. 8

THE MORROW OF SURGERY—ADDRESS
TO THE SURGICAL SECTION OF THE
IOWA STATE MEDICAL SOCIETY
HELD AT WATERLOO, IOWA,
MAY 12, 13, 14, 1915

T. E. POWERS, M. D., F. A. C. S.

The accomplishments of modern surgery may truly be said to be pre-eminent among the scientific achievements of the world of our day. A generation ago surgery involved hazards of life and death which are not involved today. Many members of this society will recall that during the early days of their practice the amputation of an arm, or even of a finger, was attended by a high rate of mortality. The opening of the abdomen was a matter of gravest concern involving almost certain death. The results of the treatment of compound fractures were a matter of utmost concern for the life of the patient. Inflammation of the bowels, so called, or general peritonitis, meant almost inevitable death. The expectant mother was haunted by fear of puerperal sepsis. The laity then believed that even the simplest open wounds must suppurate. In the clinics it was taught that it was necessary to have laudable pus before closure or union of the wound could take place. A puncture by a rusty nail was likely to be followed by tetanus.

The advancement of the surgery of today in the results obtained from these and similar conditions over those of yesterday is what has caused admiration for modern surgery. Now the mortality rate from general infective peritonitis has been greatly reduced. The pregnant woman rests secure in the knowledge that unless she has within herself the seeds of infection she will pass safely through her labor even though the most trying operative interference may be necessary.

A generation ago if a cranial tumor was recognized no hope of its surgical removal could be held forth to the sufferer. Under modern conditions the brain cavity is entered with virtual impunity, and many conditions relieved which are otherwise hopeless. At that time only those

heart injuries which could recover without interference involved hope for the patient. Under modern surgical treatment the mortality rate of heart injuries has been reduced from 85 per cent to less than 60 per cent. We might review in like manner the entire list of surgical diseases and find many other similar striking instances of advancement in surgical treatment.

This great change in the prognosis of surgical diseases is due to two important factors. First the establishment of the fundamental principles of bacteriology by Pasteur about the middle of the nineteenth century, and second their application to surgery by Lister.

In general it may be said of all great scientific discoveries or changes, that they are gradual developments brought about by the work of a number of investigators. So it is with modern surgery, as far as operative technic is concerned. But the one great underlying principle which has made this development possible lies undoubtedly, so far as the world knows, to the credit of Louis Pasteur.

The great underlying principle to which reference is made is that important development brought about near the middle of the nineteenth century in consequence of the new science of bacteriology. The place and importance of the new science in its bearings upon surgery was due to the distinguished discoveries of Pasteur. This eminent chemist discovered and definitely established before the scientific world, the fact that spontaneous generation was untenable and that all putrefactive changes occurring in plant and animal life were caused by living organisms.

The distinction due to this eminent chemist for his valuable research in the establishment of these great truths was recognized by honors and conferments on the part of learned societies of the world. Pasteur was a pathfinder, pointing the way for Lord Lister to apply with genius and foresight the principles of bacteriology to modern surgery.

In order to fully understand and appreciate the great work of Lord Lister, reference must again be made to the very unsatisfactory conditions in surgical practice existing during the

middle of the nineteenth century, especially in the hospitals. All open wounds healed badly. Owing to the fact that simple fractures and other subcutaneous wounds healed kindly it was believed that the evils in open wounds were due to the entrance of air and various means were adopted to prevent this. By striving to bring about like conditions it was hoped to attain the same happy results. Abscesses were opened by the valvular method of Abernethy. In club foot, tendons were cut subcutaneously. Various balsams, turpentine and spirits were used as dressings to exclude air. These dressings were cumbersome, shut up the secretions and added to the trouble. About the middle of the nineteenth century this practice was discarded. Surgeons then went to the opposite extreme and applied simple dressings, and some none at all. Under both of these methods some wounds healed kindly, many others however, became inflamed and the patient had chills, and high fever, and a form of intoxication, thought to be due to the entrance of pus into the veins, hence originated the term pyemia. The fatality was great, especially in the hospitals. It was observed by the late Austin Flint in his writings that epidemics of erysipelas and puerperal sepsis often occurred simultaneously as though there might be a common cause. The mortality rate from puerperal sepsis was fearful. Private patients usually made more favorable progress than those treated in hospitals. Hospitals were brought into disfavor and the term of "hospitalism" was coined by J. Y. Simpson.

By counsel of this authority the entire abolition of the hospital system was considered. Fortunately for humanity Lord Lister was able to show that the fault did not lie with the institution of the hospital but with the unclean conditions of the surgeon, the attendants and their instruments.

Lister, in 1860, announced to the world his epoch making theory. For a number of years he had been a close student of putrefaction in wounds. Comparing his conclusions with the result of Pasteur's investigations concerning the causes of putrefaction, Lister decided the evils observed in wounds were due to the growth of living organisms admitted through the medium of the air, sponges, dressings, the surgeon's hands, or the skin of the patient. Thus Lister formulated the germ theory and set about to discover some means of overcoming the effects of the microscopic plant growths in wounds. He believed this could be accomplished by means of some application for the destruction of the growth, either before it had a chance to enter the wounds, or just after it had entered or by its rapid removal from the wound by drainage.

Even at that time there were several substances known to possess the properties of arresting putrefaction, and these were called antiseptics. He had been impressed by the action of carbolic acid employed in disinfecting the sewerage of the town of Carlisle, where it had been successfully used as a deodorizer and to destroy parasites on cattle. He first exercised his ingenuity on compound fractures in which the mortality had always been excessive. It was on such cases that he proposed in 1864 to use his new remedies. Pure carbolic acid on lint was used to cleanse the wound which was then sealed by the same preparation. The result is well known.

Lister in a presidential address to the British Medical Association said that "He had the joy of seeing these formidable injuries follow the same safe, tranquil course as simple fractures." So Lister laid the foundation of antiseptic surgery. Gradually his investigations led him to solve the difficult problems presented. It required years of experimentation and patient study to arrive at the present stage of progress. Two points were kept constantly in mind by Lister; to guard the wound from microbes during operation and to prevent their entrance afterwards. Lister's views concerning the air as an infecting agent seemed to be confirmed by Pasteur's investigations. After three years of investigation (1867) he writes:

"Turning now to the question of how the atmosphere produces decomposition of organic substances, we find that a flood of light has been thrown upon this most important subject by the philosophic researches of M. Pasteur, who has demonstrated by thoroughly convincing evidence that it is not to its oxygen or to any of its gaseous constituents that the air owes this property, but to minute particles suspended in it."

With this idea in view Lister devised his carbolic spray. This method of operating has been utilized doubtless by some of the practitioners present. Experimentations proved that the germicidal value of the spray was overestimated. Its gradual omission demonstrated that its good effects were due to irrigation of the wound rather than to its antiseptic effects on the atmosphere. The announcement that Lister had given up the spray was interpreted in some quarters to mean that he had abandoned his theory and antiseptic methods.

The spray was only one of a number of experiments tried in the course of an earnest endeavor to apply the principles of antiseptics to the best advantage. The use of antiseptic solutions for irrigating the wound and cleansing all things coming in contact with it naturally followed the

spray. The use of these solutions was eminently successful.

From the first Lister had insisted upon cleanliness as a necessity. It was shown by careful trial that sterility of all objects coming in contact with a clean wound without the use of antiseptic, produced the best results. So for a time asepticism took the place of antisepticism. Today a judicious combination of the two methods is recognized as the best practice. The laws governing the application of the principles of asepsis and antisepsis have a prominent place in every text-book. Success in practice demands their strict observance in the treatment of every patient in the field, in the hospital, the office and the home. The great ideals of Lister have been realized. The surgeon is master of the wounds he has inflicted. Lister stands out preeminent as the foremost contributor to surgical science during the nineteenth century.

A more complete review of his work must include a history of the principles of bacteriology as established by Pasteur and applied to modern surgery by Lister. From a surgical point of view the work of these two men must always be linked together. The foundation laid by Pasteur served as the basic principles which enabled Lister to pursue his investigations and reach his conclusions. These two eminent scientists have contributed to the welfare of the world. They have been rewarded by the learned societies of the world in so far as the bestowal of honors can express such gratitude. Their work has revolutionized the theory and practice of the profession, and launched us on an era which can truly be said to be the most brilliant in surgical history.

As a result of the development of these principles, progress in medical science has been by leaps and bounds. New fields have been opened up and new possibilities developed. The interesting work of Rosenow and those working along similar lines, have shown the possibilities in the field of what may be called prophylactic surgery. A new light has been thrown on the probable etiology of a number of surgical conditions that have not been heretofore understood. Their experiments have pointed out that bacteria gaining entrance to the body through a local lesion, such as diseased tonsils, abrasions of the gums, or any other lesion, may through transmutation and selection, find a suitable culture medium in some distant part of the body and there produce a local infection which may require surgical interference. In such a manner may be developed many of the local infectious diseases, such as osteomyelitis, appendicitis, cholecystitis, or similar conditions. By proper treatment of the av-

enues of entrance of the infecting agents, many of the resulting affections may be prevented.

Experimental surgery has assumed a position of the highest importance. It has demonstrated that the theories and methods of prominent surgeons have proven of practical value when applied to the relief of pathological conditions. The benefits which have been conferred are immeasurable. Those which may be conferred are inestimable. Philanthropy has responded in this field which is full of such possibilities. Institutions of research have been established and amply endowed for pursuing these investigations. Men of superior minds and broad views are devoting their lives to problems, the solution of which, will do much for the relief of disease. Dr. Alexis Carrell, the distinguished head of the Rockefeller Institute and the recipient of the Nobel prize for 1912, is a notable investigator in this field of research. Some of the facts which he has demonstrated are of wonderful significance.

Preservation and growth of tissues detached from their normal environment and their continued growth after transplantation to a foreign environment are full of suggestive possibilities. It is probable that the occasion of the European war which has called him into active service as head of the American Hospital in Paris, has afforded him an opportunity of applying these discoveries beneficially to humanity. There are others engaged in research work at home who are devoting themselves with zeal and self-sacrifice for humanity's welfare. Many of these are devoting private means for the prosecution of their investigations.

The morrow of surgery is awaiting at our door. The admirable surgical record of the nineteenth century is closed. The twentieth century is presenting problems and making its exacting demands. The problems are serious, difficult, and require careful consideration. The knowledge of yesterday opens to our view a broad field for investigations. Progress is to be made by discarding many of the old methods in favor of co-operation and enlightened social effort. This is the keynote for future advancement.

The differential diagnosis of many surgical conditions involves a wide range of knowledge, the skilful use of many instruments of precision, and the application of intricate laboratory tests. The patient is entitled to the benefits and security that can be conferred by the combined use of all these facilities. The proper application of such facilities by a single individual is not always practicable. Therefore isolated effort must be

replaced by co-operative means and skill. The internist, the surgeon, the chemist, the pathologist and bacteriologist must unite in a systematic effort to solve the questions that are daily presented. Failure to use all the means and facilities at command has often issued in regrettable consequences.

The medical practitioners of every community should co-operate in attaining this laudable achievement. This is alike desirable both for the community and the practitioner. The public are entitled to the benefits to be derived from prophylactic surgery. The probable consequences of the theory that bacteria entering the system through a local lesion may be do differentiated in their pathogenic tendencies that one strain has a selective affinity for the mucous membrane of the stomach and another for that of the appendix, require that such facts when ascertained should be given publicity.

In the surgery of tomorrow, operative skill will be supplemented by a knowledge of the best means of prophylaxis. In the acquisition of such knowledge the sciences of chemistry, bacteriology and physiology must make liberal contributions. The chemist and bacteriologist have many problems to solve.

With the physiologist rests the duty of demonstrating the function and mutual relations of important organs whose exact place in the economy is not fully understood. The thyroid, parathyroid, thymus, tonsils, adenoids, hypophysis, adrenals, testicles, ovaries, vermiform appendix, spleen, and many other parts of the body offer a fertile field for study. Until their normal status is more fully defined, the surgeon cannot intelligently interfere with the results of abnormal action.

The treatment of cancer is probably today the gravest problem confronting the medical profession. Investigations of the most extensive character, through the generous liberality of philanthropists, are being thoroughly prosecuted. The statistics of all countries keeping trustworthy records, indicate an alarming increase of this dreadful disease. The profession as well as the public await further light from research. Meanwhile early diagnosis and prophylaxis offer the most salient hope at the beginning.

The foremost consideration presented by the surgery of tomorrow is that of men to whom to entrust its tasks—men of high character, broad visions, clear judgment, unswerving integrity and undaunted courage. They must be actuated by the ideal of rendering a great service to humanity. In the words of the presidential address of Dr. Finney to the American College of Surgeons;

"Character and efficiency of service are our battle cry."

The most thorough, physical, moral and scientific training are essential to the preparation for such a life work. A fundamental knowledge of all the sciences should be acquired and made subservient to the one great object in view. To the man who is thus actuated and prepared the morrow of surgery presents a life of unlimited possibilities. In the words of an eminent surgeon, "America claims Ephraim McDowell, when will she produce a Lister?"

Pasteur spoke prophetically, in 1888, saying:

"Two opposing laws seem to me now in contest. The one, a law of blood and death, opening out each day new modes of destruction, forces nations to be always ready for the battle. The other, a law of peace, work and health, whose only aim is to deliver man from the calamities which beset him. The one seeks violent conquests, the other the relief of mankind. The one places a single life above all victories, the other sacrifices hundreds of thousands of lives to the ambition of a single individual. The law of which we are the instruments, strives even through the carnage to cure the wounds due to the law of war. Treatment by our antiseptic methods may preserve the lives of thousands of soldiers. Which of these two laws will prevail, God only knows, but of this we may be sure, that science, in obeying the law of humanity, will always labor to enlarge the frontiers of life."

LIFE INSURANCE AND THE DOCTOR*

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Life insurance is the largest business in the world today. It is the only large business with which the ordinary physician has any connection; and in this he has a very important part, that of examiner, upon whose work the success of the business very largely depends.

So universal is life insurance at the present time that there is scarcely a physician anywhere but is an examiner for one or more insurance companies, or orders.

Notwithstanding this fact, I have never known of but one paper on the subject of life insurance examinations being presented to a medical society, and that was in Texas last year; and this year they have a section on life insurance in the Texas state society. That the subject has not been considered before medical societies is due perhaps to the prevalent idea that this subject is a very simple one, and that any one can make as good an examination for insurance as another. A long and somewhat intimate acquaintance with the medical departments of several of the great companies, has convinced me that this idea is far

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from the facts; that there is a great difference in life insurance examinations. One may be all but worthless, while another gives as accurate a picture of the applicant's physical condition, and hereditary tendencies, as a good photograph does of his face.

It may seem somewhat presumptive in me to assume to give any instruction on this subject; but a long service as an examiner for several of the great companies, and for the past eight years medical director of a local company, entitles me to express an opinion as to what is expected of an examiner. What I shall say is from the standpoint of an examiner; and mainly expresses what I have gathered from those whom we regard as authorities.

Furthermore, Iowa is considered, as I recently heard it expressed by the medical director of one of the great companies, "The best field for insurance in the world." And in addition to the large volume of business written by the big eastern companies, Iowa has fifteen growing insurance companies, all of which are doing a legitimate and prosperous business.

In the first place, we as examiners, in accepting a commission from an insurance company should fully appreciate the fact that we are in the employ of the company, and not of the applicant. That we are employed to ascertain all the facts pertaining to his health and insurability, and should so report it, whether the applicant be a stranger, or our best patient.

It is not so much our opinion the company wants as the facts. Indeed some companies do not wish us to express an opinion, while others do; but every company expects us to give them clearly and fully the facts of the family and personal history, and the physical condition of the applicant. When this is accurately done, insurance becomes an exact science.

We should not lose sight of the fact that the average individual, whether consciously or unconsciously, is quite a different person as a patient, or as an applicant for insurance. From the very nature of the case, although he may feel that he is perfectly honest in each, in one instance he is likely to magnify trivial incidents, which in the other he will minimize or not mention at all. And there is a great temptation to conceal or gloss over important facts that may be detrimental to his health. Hence greater care and tact is necessary on the part of the examiner, in the second instance than in the first to ascertain the facts. In the first instance the individual has every selfish motive to assist the doctor; while in the second the exact reverse obtains.

I have just had a good illustration of this in an

application for insurance from a man who claims to be in perfect health, and entirely recovered from a recent injury, while at the same time he has a suit against a railway company for total disability on account of this injury.

There are four important class of facts to be obtained: The family history, the personal history, the personal habits and environment, and the physical condition. A full and accurate family history, including grandparents, is of great importance in making up an estimate of a life. It is a scientific fact that the possibilities of an individual, his resistance to disease, his strength and longevity, are largely determined beforehand by his inheritance. Each intricate human mechanism is wound up at the beginning to run about a certain length of time, unless damaged in the using. Except as modified by environment and incidental circumstances, an individual can be expected to live about as long as his progenitors. Heredity not only plays an important part in the numbering of our days, but may be equally potent in determining the disease of which we shall die.

A tendency to certain diseases is distinctively hereditary in character. Most prominent among the diseases which produce a hereditary tendency are, alcoholism, apoplexy, insanity, tuberculosis, rheumatism, gout, diabetes, and cancer. A high authority says that heredity holds first place as a factor in the causation of alcoholism. Apoplexy is markedly a hereditary disease, as are the various forms of vascular degeneration, and insanity. The rheumatic tendency is transmitted, and makes those born of rheumatic ancestors more liable than others to the disease in the proportion of five to one, according to Thompson. Tendency to disease may be increased or diminished by intermarriage. The marriage of two persons with the same hereditary tendency is likely to augment that tendency in their offspring; while marriage with one of a strong vigorous family may entirely change the type in the children. These are some of the reasons why a clear family history is of importance.

The personal history is of still greater importance. A person may have a good heredity, and yet from incidental causes not be a good risk.

What sickness has he had, and what effect has it had on his health: Some diseases are liable to produce lasting sequela; others are notably recurrent, or prone to chronicity, as rheumatism and appendicitis, etc. The dates, number of attacks, severity and after effects, should all be carefully given. To simply state that an applicant had rheumatism, or had appendicitis at

such a date, and say no more, only makes a correspondence and delay a certainty.

Not less important is the applicant's personal habits, and environment. Especially is it important to ascertain the exact facts in regard to his use of liquors. The general terms "occasionally," and "temperate" are practically meaningless. Statistics show that the mortality is 25 per cent higher in moderate drinkers than in total abstainers; and the mortality in free drinkers is much higher than that of moderate drinkers. We should endeavor to ascertain the exact amount and kind used, or at least the approximate amount. Most persons who drink, understate the amount used, as persons addicted to the use of opium or cocaine invariably deny it.

The examiner's personal knowledge is often of the greatest value in deciding this important question. The applicant's habits as regards any kind of excesses or vices, or on the other hand his sanitary care for his health, and his environment, are of great importance in making up an estimate of a life.

A radical change of environment may be detrimental. Take for instance a large and increasing class of farmers who have always led very active lives in the open air,—and with muscles and heart largely developed by violent exercise. Between the ages of forty-five and sixty they have accumulated a competence; and deciding to take life easy, sell or rent their farms and move to town. A farm appetite, with little exercise is almost certain to result in deranged metabolism, intestinal toxemias, and muscular and visceral degenerations. If there is the least tendency to the drink habit, leisure and occasion and ability for indulgence is sure to increase this habit, and add its baneful effects to the other tendencies mentioned. It has been my observation that this class of men often shorten their expectancy ten to fifteen years from what it would probably have been, had they remained in their natural environment, and continued their normal habits.

Environment may frequently decide a borderline case. Take a young man underweight, and belonging to a family with tubercular tendency; out on a farm, or in some other healthful out of doors occupation, he might be a good risk; while shut up in an office or shop, he would fall below the standard. Take a borderline overweight in middle life. If he is a total abstainer, and leads a well regulated active life, he may be a good risk; while if he is given to more or less beer drinking, leads a sedentary and irregular life, with questionable surroundings, he belongs to a class which has a mortality far above the standard.

The physical examination is of course, the most important part of an examination for insurance, if indeed, there is any degree of importance in the various parts of an examination, as it gives the applicant's present condition. Of this not much needs to be said. It is mainly a matter of conscientious care, and knowledge of physical diagnosis.

The first thing to do is to observe the applicant. Much may be learned by inspection, that might not be revealed by the physical examination. Does the applicant look like a person in good health? Is he erect, well developed, neither too fat or too lean; firm and vigorous in his bearing, and movements, and of clear and healthy complexion? These are the preliminary mental questions which should never be omitted, and can usually be answered by a moment's observation, either in the affirmative, or in suggesting a line of further inquiry and investigation. The next thing is to measure and weigh the applicant. This is of great importance since so much stress is now put upon weight by insurance companies. Correct measurements can always be made, at any time and place, with a measuring tape; and for examinations outside of the office I have found a six foot folding rule a convenience in measuring height. The statement of the applicant should never be taken for this. I have had applicants in all sincerity, time and time again, misstate their height two inches, and even three inches in some instances. And an applicant's estimate of his weight is not much more reliable. An overweight is very likely to understate his weight. I have had occasion in some instances to weigh an applicant, where his weight was forty, and in two instances that I recall, was fifty pounds more than given in the report. It is now quite common to make examinations in the country, and it is not always convenient to weigh the applicant. An experienced examiner after measuring an applicant can usually determine if the applicant varies much from the standard weight. And if he does, and there are no scales accessible, it should be deferred until he can come to town and be weighed. Most application blanks now ask the direct question, if we have weighed the applicant. This question should never be answered in the affirmative, if we have only made an estimate of his weight, or taken the applicant's statement for it. It then remains for the company to accept our estimate, or to request the actual weighing. The importance of the accurate weight will be appreciated, when we know that according to the reports of the Medico Actuarial Investigation, every pound of increased weight above the standard, in a man of forty, in-

creases his mortality one per cent on the average, and with an increasing ratio as the age and weight increases.

It is customary to weigh the applicant with his ordinary clothing, and measure him in his shoes. A few companies direct the coat and vest to be removed before weighing, and when this is done it should be so stated. The coat and vest are always removed for the measurements, which are made over the shirt. To examine the chest, the shirt should be unbuttoned and thrown back, completely exposing the chest. The coat-shirt which is commonly worn now, and the union underwear suit, when unbuttoned expose the body to the waist, with very little trouble and annoyance to the applicant. This gives a good opportunity to use the stethoscope, and make a careful examination of the heart and lungs, which should always be done. This is quite sufficient in most cases. If the case is doubtful, the shirt can be removed entirely. The chest should first be inspected as to shape, fullness, etc. The heart should be located, its size, position, and apex beat. Then the heart sounds should be very carefully listened to, observing the relative character of the first and second sounds. Is there any irregularity or intermission? These are the mental questions which we should always ask ourselves, and answer by careful investigation. All murmurs should be carefully noted, and their character described. I have no sympathy with the declaration which we often hear made, that a large percentage of heart murmurs are of no importance. I only know of two kinds of murmurs which do not denote disease of the heart, and one of these is not a heart murmur at all. I allude to anaemic murmurs, and to a pseudo-heart murmur which is often heard, especially in thin persons during inspiration. When they stop breathing, the murmur is gone. It is really an inspiratory murmur and not a heart murmur. A person who is sufficiently anaemic to cause a heart murmur is not a fit subject for insurance. So I maintain that all heart murmurs are of serious importance, from an insurance point of view, and should be carefully studied and reported. If there is any question about the character or constancy of a heart murmur, a second examination should be made on another date.

The insurance of women has always been a perplexing question in life insurance. The experience in general in the insurance of women has been unsatisfactory and unprofitable, so that many companies have given up insurance of women altogether, and many others restrict their

risks to endowment, or limited payments, or charge a higher premium.

There is something wrong about this. Statistics show that women live as long as men. Yet the experience of insurance companies has been that women show a decidedly higher mortality, especially at the younger ages. The recent Medico-Actuarial Investigation has thrown much light on this whole subject. Women in general, taking together all ages, and forms of insurance, show a mortality of 104 per cent of the expected.

But the mortality of young married women, between the ages of twenty and thirty, with their husbands as beneficiaries, shows the astonishing figure of 156 per cent of the expected; and the mortality in this class is higher in the first year of the policy than in any succeeding year. This clearly indicates selection against the company. This high mortality in married women gradually decreases with advancing age at entrance, until it reaches the normal at sixty.

The average mortality in married women with their husbands as beneficiaries is 126 per cent of the expected. Contrast this with the class known as spinsters, single women, who take out insurance as a rule for their own benefit, a large per cent of which is endowment, and pay the premiums themselves, who show a mortality of only 78 per cent; and at the older ages as low as 68 per cent of the expected. That is, the mortality among married women is 65 per cent greater than among spinsters. These figures are not at all in accord with the general understanding of the comparative health of married and single women.

There are undoubtedly two principal reasons for these unfavorable results in the insurance of women: First, the evident selection against the company, especially in the case of married women insured in favor of their husbands; and second, superficial and incomplete examinations. I think we examiners are accountable in this. There is a strange prevalence of the notion that it is indelicate to ask a woman to remove and open her clothing in such a way that her heart and lungs can be examined with a stethoscope for an insurance examination. Nothing can be more absurd or further from the facts. Such false delicacy is never thought of in the consultation room when the woman comes as a patient, and the question is whether she has disease of the heart or lungs. In the examination of hundreds of women I have yet to meet the first woman who has made any objection to such exposure of her person as was necessary to make a proper examination. When there is any trouble in this regard, I believe it is a lack of tact on the part

of the examiner. A woman who will not permit a proper examination has a morbid nervous system which of itself would make her a poor risk for insurance, and would constitute a sufficient impairment for rejection.

To pretend to examine a woman for insurance without exposing her chest, and without at least opening her corset, if not entirely removing it, is a farce, and really amounts to obtaining money under false pretense. She might just as well be on the other side of the fence, so far as any critical knowledge of her vital organs can be obtained. We might just as well count her pulse and look at her tongue, and let it go at that. With the exception of diseases of the female organs, concerning which conventionality limits us to her statements, there is no reason why a woman should not be examined as thoroughly as a man. And when so examined, carefully selected risks in women should be as good as carefully selected risks in men. Women are less sophisticated than men, and more likely to tell the truth when questioned. The hazard of child-bearing will always have a material influence on the mortality at the younger ages. But it seems to be demonstrated that women in good health after the menopause, are better risks for insurance than men at a corresponding age.

The most recent addition to the technique of life insurance examinations is the taking of the blood pressure.

All companies now require this in some cases, and a large and constantly increasing number are requiring it in all cases, and requiring both the systolic and diastolic pressure.

So common has the use of the sphygmomanometer become, that most physicians are able to take the systolic pressure with approximate certainty. But a large majority still take it by palpation. In a person with a full distinct pulse this can be done with great accuracy, but in a case where the pulse is not very distinct it can only be done approximately in that way. But so new is the whole subject, and so recently has it been required and its importance appreciated, that I believe not more than one physician in ten is able to take the diastolic pressure with sufficient accuracy to make it of any diagnostic value. There is but one way that the diastolic pressure can be taken with accuracy, and that is by auscultation.

If I could be the means of helping everyone who hears or may read this paper to master the simple technique of taking the blood pressure by auscultation, I would feel a hundredfold repaid for the work I have put on it. I think the chief

difficulty is in failing to understand the principle of the sphygmomanometer.

The systolic pressure represents the full force of the left ventricle sent into the arteries during its contraction. It is measured in millimeters of mercury on the scale of the sphygmomanometer, and is indicated at the point where the compressing cuff completely compresses the artery.

The diastolic pressure is the force retained by the artery walls during the heart's diastole, or rest; and it is indicated on the scale just at the point where the compression is released. These two points, that of complete compression, and complete release of the artery, can be determined with great accuracy with the stethoscope placed over the brachial artery at the bend of the elbow. When the artery is completely compressed no sound is heard; and when the compression is entirely released no sound is heard. Inflate the cuff until the pulse is shut off; open the needle valve and allow the scale to descend very slowly. Suddenly a clear distinct pulsation is heard as the first blood is forced through the constriction; this marks the systolic pressure. Again open the needle valve and after a few of these clear loud pulsations as the scale goes slowly down, they usually change in quality to a rough murmur, which continues some distance down the scale, when suddenly the pulsation again becomes loud and clear, very soon to be followed by dull obscure sounds, which suddenly cease altogether, as the scale goes down one or two points further. The point on the scale just before all sound ceases, marks the diastolic pressure.

Now these are the points; the *first* sound heard as the completely compressed artery is partially released; and the *last* sound heard, as the artery is fully released. A little practice in this will enable any one to take both the systolic and diastolic pressure with just as much certainty and accuracy as he would count the pulse.

The time has come when it is absolutely necessary for all of us to learn to take the diastolic pressure without guessing at it. It will not answer for us any longer to send in such a report as this, for example: Systolic pressure 125 m.m., diastolic pressure 123 m.m.; because in so doing we show that we have not the slightest conception of what the diastolic pressure signifies.

The normal average systolic pressure in a man is about 125 m.m.; and the diastolic pressure around 85 m.m. In women the blood pressure is about 10 m.m. less than in men. The range of normal systolic pressure according to the best authorities is between 115 m.m. and 145 m.m.; and the diastolic between 75 m.m. and 95 m.m. A diastolic pressure of 100 m.m. is suspicious;

and above 100 is pathologic. The normal equilibrium of the blood pressure is, the diastolic about two-thirds of the systolic, and the pulse pressure one-half of the diastolic or one-third of the systolic.

In a great majority of cases of insurance examinations, the systolic pressure is of principal importance; but there are cases where the systolic pressure, without the diastolic pressure, is positively misleading,—as in old cases of hypertension, where cardiac degeneration has been going on, and decompensation has begun, with the resulting lowering of the systolic pressure.

It is important to all concerned that we examiners cultivate cordial relations with the agents in the field. Our relations to the case are different from his. We are employed by the company at a stated fee for our services, and are paid the same whether our report is favorable or unfavorable. The agent usually works on a commission, and his income is contingent on the acceptance of his applicants. His solicitude in this regard is sometimes an annoyance to the examiner; but we should be charitable and "put ourselves in his place,"—when we would probably feel just as he does. We should show a willingness to accommodate and co-operate with him in all reasonable ways, by prompt examinations. There is nothing in which delay is more dangerous than in life insurance examinations. This willingness to accommodate, tempered with a little milk of human kindness, will soon establish frank and friendly relations with the agent; and he will come to respect us and our opinion, and feel that when we reject an applicant, it is because it is right; and will make no effort to warp us in our opinion. We sometimes hear agents accuse Dr. So and So of "legging" for such and such a company. This is probably in a great majority of cases imaginary. But perhaps there is occasionally an inexperienced doctor who does this. There is a great difference between prompt co-operation with an agent in getting applicants examined, and joining in soliciting business, and talking about other companies, and drawing comparisons, and giving advice. No company wants their examiners to act in any way as solicitors. They simply want us to make prompt and impartial examinations, and preserve a strict professional neutrality in our relations with other companies. If we are examiners for more than one company, as many of us are, we should give to each one the same confidential consideration that we give to each of our private patients. The man who is the trusted examiner for a half dozen companies, is likely to be a better examiner for each one, and more likely to be

sought after by additional companies, than the man who "legs" for a single company,—if there are any such.

Discussion

George E. Decker, Davenport: I am sorry Dr. Crawford was not able to finish reading his paper, for the subject presented is an important one and should be brought before the State Society more frequently than it is.

The essayist called attention to the fact that in life insurance the average physician comes in close relationship with big business. And it stands to reason, if we stop and think about it for a moment, that "big business" is going to check up the kind of work the doctor is doing for it. There are many ways in which the doctor's work is being checked up by life insurance companies. Many companies obtain confidential reports upon their applicants, some upon all applicants, others only upon those applicants seeking the larger-sized policies. These confidential reports are obtained through sources other than the medical examiners, and frequently bring out information that the medical examiner has missed or, in some cases perhaps, has glossed over. That is one way in which the examiner's work is checked up. Then, should the examiner stop to think about it, if perchance he has made fifty examinations for a certain life insurance company in a period of three or four years, he will find that he has forgotten the details, he has forgotten whether he went into each case with the careful consideration he should have given it. But on a couple of small cards in the home office the details are right before the officers, and a glance will tell whether the work has been efficient or not. For instance, the card will tell whether the pulse rate is 72 in all applicants, old and young, summer and winter. All the details of the case will be obtained at a glance, and the relation between the home offices of the various life insurance companies is so close that the interchange of information in regard to examiners is frequent and free. It is no trouble at all for one company to find out from any of the other companies just what sort of work Dr. Smith of Bird Center is doing, as a glance at the card will reveal whether there has been undue amount of correspondence in regard to his work, whether there has been an unusual number of early deaths following his examinations, etc., etc., and in time his work for the insurance company may come forward either to commend him or lose him his position.

The work of the examiner for the life insurance company should be as good as that which he does for any individual employing him. It is well paid for and should be given his very careful attention. When it is not, in the course of time some better man is going to replace him.

A. C. Page, Des Moines: There are two or three points which I think should be emphasized. One is promptness in making examination of an applicant. Many insurance policies are never completed because of the delay in making the medical examination.

Another thing is an appreciation of the importance of the examination. The examiner comes in contact with only the agent, for whom oftentimes he has little respect, and he is apt to minimize the importance of his work. He should realize that on his report a contract for insurance will be accepted or rejected.

The third point I would emphasize is the honesty of his report. Most physicians are capable of making a thorough examination. If they are honest in reporting their findings in the medical record, they will have fulfilled their part.

M. L. Turner, Des Moines: It is quite significant that the first paper read on this subject was on "Temptations of the Medical Examiner," the paper referred to by Dr. Crawford. Last year Dr. Crawford presented to the Iowa State Medical Society a splendid paper on the subject of blood pressure, the importance of which is, I believe, minimized by a large number of the men making examinations for life insurance. We are not getting the results we should in blood pressure examinations. The subject has not been studied by our examiners. There is no one here but understands it, but there are a few people in the county societies to whom we want you to carry a message to the effect that they are not checking up in blood pressure as well as they should. For instance, every man should be impressed with the importance of the fact that blood pressure is not always exactly the same. That is, the examiner will give the blood pressure as 145 in every case or 110 in every case, and he will give the systolic and diastolic pressure practically the same, perhaps with one or two degrees difference. They have not learned how to use the instrument, and we hope somebody will teach them how.

The importance of blood pressure is illustrated by the following incident: A few days ago a student only twenty-one years of age was examined by one of our good examiners, who gave the blood pressure as 145. We believed it was correct. Applicant was sent to Des Moines, one of our physicians there examined him and found a blood pressure of 156. Upon examining a centrifuged specimen of urine we found casts. The agent requested that we send the applicant to the company, which we did, and he was promptly declined.

We have been in the habit of taking blood pressure only in special cases. It should be taken in every case. I will illustrate. Many of our examiners are careless about taking histories. A case came to our company a few days ago. The mother died, aged thirty, indefinite history,—“didn't know.” Applicant's age was twenty-two. He gave a report of having had an indefinite sickness at the close of school year, said he was run down on account of hard study. We sent back asking for a more definite report as to cause of death of the mother, but could not get anything. We then referred to the health bulletin of the state and secured the information that she died of tuberculosis. The doctor who treated the young man at the close of his school year said

that they were suspicious of tuberculosis and sent him west. These things can be determined by the examining physician as well as by the home office.

J. L. Augustine, Ladora: I think a part of the difficulty arises from the fact that some companies do not require the doctor to send the examination paper directly to the home office. Whenever it is permitted that the agent shall have the paper, there is likely to be an immense amount of influence brought to bear to change things in the examination report if in any particular it intimates that the risk is below first-class. The agent, of course, is interested in having the applicant go through all right, because if that does not happen he gets no commission. A recent instance in point was one in which I was the examiner, the report being delivered to the agent. The applicant would have been rejected, but the paper was suppressed for the time being and an examination was made by another examiner for a different company. Both papers were sent in, but to separate companies. The rejection by the first company did not show until the acceptance of the risk had been received from the second company. Now, if the examiner was free from any such encumbrance, I think results would be better. In the instance mentioned I have no doubt the applicant was suspected by the second examiner of being unfit, but the agent probably brought pressure to bear to have unfavorable facts suppressed.

When the examination paper is sent direct to the company, the chance for trickery by the methods mentioned is eliminated.

A. L. Brooks, Audubon: For a time I feared that both sides of this question would not be presented, as I noted that the first four or five gentlemen who spoke are fortunate enough to be medical directors of life insurance companies. Most of us are little fellows living out in the brush. The only connection we have with the life insurance companies is just simply examining and sending our reports to the medical directors.

I think it is too bad that the medical profession generally, and especially of Iowa, which ought to be above suspicion, is not entirely so as regards liability to being influenced by the importunities of an agent who is dead sure that a man, even though he knows that he is a boozier, that he lives in unsanitary surroundings and a great many other things he ought to know and no doubt does know, is a good risk. He is absolutely sure that a man who can sign a note for a policy or dig up the cash, is a good risk. The position of the medical examiner at home ought to be absolutely above any influence of that kind. And unless a man has “back-bone” enough to tell the medical director everything he knows about an applicant, he has no business with an appointment as local examiner. I do not think that anything except the actual condition of the applicant ought to have any weight with the medical examiner, and if he realizes his responsibilities nothing else will have. It is frequently the case that we know these people, we know their surroundings,

their habits of life, a great deal better than any one else knows these things. We may be inclined to think that a man is a perfectly good risk because his father and mother lived to old age, but we know some little thing nobody else knows about that man. If we do, and it is something which is detrimental to his expectancy, the medical director ought to know that fact, because he is paying us.

There is a difference in life insurance examinations. There are two classes of companies, and this difference the profession is gradually coming to appreciate. In the old line companies we are working for the interests of the company we represent. They pay us, they are the ones that hire us. The other companies referred to occasionally ask us to examine for them, in which case we are working for the applicant. And the fellow we are working for, if there be any doubt, it seems to me has a right to the benefit of that doubt, and he usually gets it. I have seen men accepted by one class of companies who told the medical examiner that they thought they had consumption, and wanted nothing but the social benefits arising from this connection. I believe the time is coming soon when the records of every local medical examiner will be subjected to the closest scrutiny by his own company and passed along to other companies and in that event I suspect that some of us will lose our jobs.

Fred L. Wells, Des Moines: We have a great deal of trouble with our examiners all over the state, and all over the United States, because of the fact that they are not explicit, they do not explain their findings, they do not give a proper and correct picture of the applicant. For instance, in one case brought to my attention only recently, applicant stated that his father died of pneumonia, not serious. Nearly every day we receive reports of cases in which it is stated that the applicant has had a pleurisy with effusion and possibly has been operated on, and yet the examiner passes it over and does not give the date of the disease. Examiners are not explicit either as to the personal or family history.

We are having a great deal of trouble just now with the proper estimation of blood pressure. As Dr. Turner has said, some of our examiners will send in a report of possibly twenty examinations in all of which there will not be a variation of more than three or four points in blood pressure. Something is wrong. Others give a diastolic pressure of from five to ten points more than the systolic pressure, and then again the examiner states that his instrument does not show diastolic pressure. We are trying to teach our examiners along the line of proper blood pressure readings, and I believe when we do get them to the point of efficiency in this particular we will gain greatly in results. Many of our cases would pass through without any trouble at all and be accepted as first-class risks, were it not for the poor showing of blood pressure. I examined a man recently who was rejected by our company about three months ago because of systolic blood pressure of

160. And the doctor wrote that there was absolutely nothing the matter with the man. He was examined two or three months later, when the blood pressure was reported as normal on four examinations. Yesterday he came to Des Moines, we made an examination and found blood pressure of 175 systolic and only 100 diastolic. That man is not normal, notwithstanding he has had half a dozen examinations following which it was stated, "Blood pressure, normal." The trouble is that a great many examiners do not as yet understand the proper taking of blood pressure, especially the diastolic, but I believe they are now receiving effective education along that line.

THE ORGANIZATION OF NATIONAL AND LOCAL FORCES IN THE CAMPAIGN AGAINST CANCER

CURTIS E. LAKEMAN, Executive Secretary American Society for the Control of Cancer

The American Society for the control of cancer has recently urged that every state medical society take an active part in arranging meetings and in spreading among all members of the profession the latest knowledge of malignant disease. At the suggestion of the cancer committee of the Pennsylvania State Medical Society, many journals will devote their July issues to this subject. It has been pointed out that the American Society for the control of cancer might take this timely opportunity to state its view of the relations between the various bodies which are concerned in this campaign. The suggestion is welcome. If indeed a clear understanding can be reached as to the most effective division of functions and duties among the various organizations, national, state and local, interested in this subject, a long step will have been taken toward the conquest of malignant disease, in so far as that ideal can be approached by the practical application of present knowledge.

THE NATIONAL SOCIETY

The American Society for the control of cancer sets up no claim of priority or originality in preaching to the public the necessity of early recognition and treatment of this disease. The organization was effected under the inspiration of numerous similar movements in this country and in Europe. From the first it has been inspired only by a sincere ambition to co-ordinate all existing forces into a single irresistible nation-wide effort to reduce the cancer death rate by imparting the necessary knowledge and inspiring the will to believe and act upon it. Those who direct the policy of the society have no illusions that they are "called" above others to this task. They firmly believe that all sincere

workers should unite in a single well considered national movement. If the present society fails to meet the requirements of such a movement it must give place to some agency that will do so, leading the campaign against malignant disease with as conspicuous ability and success as the National Association for the study and prevention of tuberculosis has directed the war on consumption.

RELATION TO THE PROFESSIONAL SOCIETIES

While the cancer society found its first impulse in the work of a committee of the American Gynecological Society, the movement was broadened at its very inception by the appointment of organizing delegates from the American Surgical Association, the American Dermatological Association, the Association of Pathologists and Bacteriologists and practically all the similar special organizations which met in Washington in May, 1913, as the Congress of American Physicians and Surgeons. Definitely launched in New York on May 22, 1913 the movement received within a few months the official endorsement of the American Medical Association, the Clinical Congress of Surgeons, the Western and the Southern Surgical and Gynecological Societies and a number of sectional and state organizations. All these professional bodies have endorsed the design of the National Cancer Society as expressed in its Constitution:

"To disseminate knowledge concerning the symptoms, diagnosis, treatment and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto."

RELATION TO CANCER RESEARCH

It will be seen that this purpose comprises not only the conduct of an educational campaign but the gathering of information in regard to this disease. In what relation, then, does the society stand to the various American cancer research institutions and workers? The answer is that the society does not contemplate the prosecution or support of biological research, already so ably pursued under the auspices of our leading universities. With these workers in the field of pure science mutually helpful relations have developed. Indeed a notable collective expression of their attitude is regarded as a very corner stone of the educational movement. A few years ago the eminent laboratory students placed on record in the transactions of their official organization, the American Association for Cancer Research, their conviction that pending the discovery of the ultimate nature and cause of cancer, a far more effective dissemination and utilization of the vast store of present knowledge of the disease is urgently called for. Formed to

carry out this very object the "control" society depends upon the constant support and co-operation of the institutions represented in the "research" society. Many of the foremost American students of cancer are prominent in the membership of both organizations. Machinery is thus provided for the wider dissemination among the profession and the people of the essence of the newest knowledge of malignant disease, fresh from its laboratory sources.

RELATION TO STATISTICAL INVESTIGATIONS

The society does, however, contemplate original work in the collection and collation of statistical data, and will expand this feature of its program as fast as its resources permit. The statistics of cancer mortality need to be improved both as regards their collection and their publication. The merest suggestion by the Society of the United States Census Bureau has been sufficient to initiate a notable advance in this respect. With the greatest possible interest and zeal, Mr. Harris the late director of the census, and his successor, Mr. Rogers, have undertaken the preparation of a special report on the cancer mortality of the United States Registration Area in 1914. The number of deaths will be stated in full detail under some thirty titles of organs and parts of the body affected, instead of, as hitherto, merely under the six general groups of the international list. The imperial cancer research fund has long urged that it is only on the basis of such detailed data for the various organs that a true conclusion can be reached as to whether or not cancer is increasing. For the first time in the United States the data will now be at hand, as it is in England and Wales through the reports of the registrar-general, for the prosecution of such inquiries.

The census bureau will also for the first time in this study make a distinction between returns based on certain and on doubtful diagnosis. To secure the additional information needed for this distinction the bureau is sending tens of thousands of letters to physicians who have certified deaths from cancer asking whether the diagnosis was based on clinical findings alone or was established by surgical intervention, microscopical examination, or autopsy.

All this, it will be realized is a large amount of work for even a government bureau to undertake. Much of it should be done in the first place by the registration offices and the boards of health of the several states, where the original certificates of death are filed. It will be the duty of the American Society for the control of cancer to urge upon the various state officials the need of undertaking this work in order to insure the

permanence of the advance in the statistical study of cancer which has been inaugurated by the census bureau.

But the society is also interested in special statistical studies of the geographical, racial and occupational distribution of cancer, and above all in collating, upon a uniform plan, the records of surgical treatment of the disease in the leading hospitals. It is important that an authoritative answer be available for all who ask just what percentage of success is to be expected in the treatment of each phase and each stage of this multi-form disease. All such studies the society regards as fulfilling its fundamental purpose and in pursuing them it is everywhere receiving the most cordial encouragement and assistance from statistical officers and from the best hospitals and institutions.

RELATION TO EDUCATIONAL AGENCIES

The important and clearly established lessons derived from such studies of the sources of information must be given to the public. The society has undertaken to do this directly, through its publications, its regular articles for the newspapers and its lectures. But in the large view it can best secure this object by enlisting the co-operation of all appropriate existing agencies which conduct educational work. Foremost among these are the state and local departments of health, especially those which are devoting an increasing share of their energies to the spreading of the gospel of health by bulletins, exhibits and lectures. In the same category must be included the committees on public instruction which in many states are conducting admirable campaigns of health education under the auspices of the state medical societies. Toward all these agencies the society stands in the relation of the "producing" to the "distributing" end of a manufacturing business. With its wide outlook over the national field it is in a strong position to provide statistical material, to receive and pass on new knowledge, new experiences, new methods which have been found valuable in one field and should be used in others. In another view the society may take the position of "middleman" between the research workers and statistical students producing new facts about cancer at the sources of knowledge on the one hand, and on the other the many agencies, general and local, which will bring the practical bearings of this knowledge, new and old, directly home to the people. In general, then, one of the most useful functions of the society is to act as a bureau of information and clearing house which is at the service of all workers and institutions interested in the study and control of cancer.

RELATION TO STATE COMMITTEES

The relation of the National Society to similar movements within the various states should be clear from what has been said. In no case will the society seek to set up local agencies to parallel work already adequately organized under the auspices of state medical societies and boards of health. Provision is made for local committees to be organized under the supervision of the resident directors of the National Society wherever no state or local agency is in a position to undertake the work. Such groups will not be formed, however, except under full agreement with present state agencies. Where, as in Pennsylvania, under Dr. Wainwright, and similarly under the auspices of state medical societies in Maine, Wisconsin, Kansas, Colorado, Louisiana, Texas, and many other states, active local committees are at work, every effort will be made to assist these groups in the manner already outlined and so far as the constitutional limits of size permit to secure from them representative delegates to the governing council of the National Society. At least one director from each state will eventually be chosen to act as a local correspondent who will inspire and stimulate work in his own state while at the same time assisting in formulating the general policies of the National Society.

RELATION TO OTHER GENERAL COMMITTEES

It is an earnest of the good feeling and harmony with which the cancer campaign is evolving toward a single coherent national movement to consider the high degree of integration with other national agencies which has already been attained. Some of these had begun effective work long before the present society was established. Aside from such admirable local campaigns as that of the Pennsylvania commission and the work inspired by Dr. C. C. Carstens in Michigan, the Clinical Congress of Surgeons of North America had in the field an active committee on cancer under the chairmanship of Dr. Thomas S. Cullen of Baltimore, the other members being Dr. Simpson of Pittsburgh and Dr. Howard C. Taylor of New York. This committee, as is well known caused the publication of widely read and influential popular articles by Samuel Hopkins Adams. It is instanced merely as indicative of the get-together spirit that animates the National Society that all three of these men naturally took their places as members of the executive council of the new association. Subsequently the American Medical Association appointed a cancer committee representing its council on health and public instruction, and again to avoid duplication of effort the same men were made members of that committee. Dr.

Frederick R. Green, the capable executive of this council of the American Medical Association, has been from the first a director of the cancer society, and has given invaluable advice and co-operation in its publicity campaign, printing every work in the press bulletin of the American Medical Association, a popular article on cancer prepared by the society, which thereby reaches 3,000 or more editors in all parts of the country.

A similar identity of committees has been effected in local fields, especially in Minnesota, and is typical of the desire to carry on everywhere a well co-ordinated national campaign which shall embrace representation from all the principal local agencies and shall thus move forward with absolute harmony and unity of purpose to the accomplishment of its difficult but glorious ideal—the progressive reduction of the mortality from this historic scourge of mankind.

The Campaign Against Cancer in New England

The New England states generally show a higher death rate from cancer than any other group of states. This does not mean that New England people are more susceptible to this disease. Cancer is a disease of later adult life and it is well known that in parts of New England there are more old people proportionately to the population than in many other regions. Nevertheless, the death rates recently published by the United States Census Bureau have stimulated much activity in these states in the educational campaign for the control of malignant disease.

What are the facts upon which this movement is based? According to the report of the Census Bureau, in 1913 there were 49,928 deaths from cancer in the registration area of the United States, corresponding to a death rate of 78.9 per 100,000 of the population. All the New England states have individual cancer death rates much higher than this. Connecticut's rate, which was the lowest of any of the New England states, was 85.1. Vermont's rate was the highest with 111.7, while the rates of the other states were correspondingly high, Maine having a rate of 107.5, New Hampshire 104.4, Massachusetts 101.4, and Rhode Island 93.3. When these figures are compared with those of Kentucky, with a rate of 48, they seem indeed very high. They mean that 6,817 people died in 1913 in New England from cancer. But it does not necessarily follow that cancer is more common in New England than elsewhere. The Census Bureau attributes the high cancer death rates in certain districts to the relatively high age distribution of the population and the negligible amount of immigration. Translated into everyday terms this means that in New England the proportion of people over forty years of age, or at the cancer age, to those under forty, and so less liable to cancer, is greater than in other places. Yet there is no doubt that the cancer death rate in New England

as well as in other parts of the country is much higher than it ought to be. Without question a large percentage of cancer deaths can be prevented by early recognition of the symptoms and prompt recourse to competent surgical advice and treatment. Cancer is not a hopeless incurable affection, as so many people wrongly believe. Those who know the facts believe that if the public can be properly educated in regard to the early signs of the disease and will act on this knowledge, the present mortality should be reduced at least half and perhaps two-thirds.

That New England is awake to this opportunity of saving lives is evident from the activity in several states. To protest against taxation without representation the patriots of Massachusetts dumped overboard the famous cargo of tea. Vermont medical men have become so concerned over the high cancer death rate of their state that they are going to hold a "tea-party" of another sort and attempt to dump overboard the high death rate from malignant disease. While their action is not so dramatic as that of the patriot raiders they hope to prove that through its great ultimate benefit to the community it will be almost as patriotic. The New Hampshire State Board of Health has recently published sound advice in its Bulletin. In Maine an active committee of the State Medical Society is arranging public lectures and causing the publication of instructive articles in the newspapers. Massachusetts has a well organized branch of the American Society for the Control of Cancer with headquarters in Boston. The Vermont State Medical Society arranged a series of public meetings to spread the bad news of the high cancer death rate and the good news of the hope of controlling the disease by earlier recognition and prompt surgical treatment. Morning, afternoon and evening meetings were held on Tuesday, Wednesday, Thursday and Friday, June 8th to 11th, at Rutland, Burlington, Montpelier and St. Johnsbury. The Vermont State Board of Health sent its Secretary, Dr. Charles F. Dalton, to address each of these meetings and the American Society for the control of cancer was represented by Dr. Francis Carter Wood, director of cancer research at Columbia University, New York City, and by Dr. J. M. Wainwright, chairman of the cancer committee of the Pennsylvania State Medical Society.

Cancer Experts to Speak in Vermont*

Program of Meetings at

Rutland, Burlington, St. Johnsbury and Montpelier

Speakers of national prominence have been obtained by the Vermont State Medical Society for its proposed series of educational meetings on cancer to be held in the principal cities of that state early next month. The program calls for an identical series of morning, afternoon and evening meetings to be held at Rutland on June 8th, Burlington on June 9th, St. Johnsbury on June 10th and Montpelier

*This is the announcement of the meetings held in Vermont last June for the study of prevention of cancer under the auspices of the American Society for the Control of Cancer.

on June 11th. In the morning of each day a clinic will be held by the visiting physicians to which local doctors will bring patients for consultation. In the afternoon, the meetings will be for the medical profession, but the evening meetings will be open to the public and the addresses will be popular in character.

Dr. Francis Carter Wood of New York will speak at Burlington on the afternoon and also on the evening of June 9th and will take part in the clinic at Burlington on June 9th and at St. Johnsbury on June 10th. Dr. Wood is the director of the cancer research work of Columbia University, which enjoys, in the George Crocker Special Research Fund, the most considerable endowment for cancer research in this country, if not in the world. In the special laboratory buildings recently opened on Morningside Heights the search into the mysteries of cancer is being pursued with all the equipment and methods known to science. One of the features of the work at the Columbia laboratory is the facilities offered to practicing physicians to keep themselves informed as to the latest developments in the methods of diagnosis of cancer in its early stages.

Dr. J. M. Wainwright of Scranton, Pa., will take part in the morning clinics at Burlington on June 9th, and at St. Johnsbury on June 10th and will address the physicians at the afternoon meetings in these cities and also in Rutland on June 8th and Montpelier on June 11th. Dr. Wainwright has long been the chairman of the cancer commission of the Pennsylvania State Medical Society, under whose auspices one of the first educational movements in America in regard to this disease was organized and carried on. Both Dr. Wainwright and Dr. Wood are directors of the American Society for the control of cancer which is co-operating with the Vermont Medical Society in the arrangements for these meetings.

Dr. Charles F. Dalton, secretary of the Vermont State Board of Health will speak at the public evening meetings on all four days officially representing the state health department.

Dr. W. S. Bainbridge of New York will be the principal speaker at the evening meetings at Rutland, St. Johnsbury and Montpelier.

TUMORS OF THE URINARY BLADDER*

J. S. EISENSTAEDT, S. B., M. D., Associate Genito-Urinary Surgeon Michael Reese Hospital, Chicago

The recent advances in examination, especially cystoscopy, have taught us that tumors of the bladder are of much commoner occurrence than we had thought. Bladder tumors, as all others, may probably best be divided into benign and malignant, however they are often classified as flat or pedunculated or are named from that

layer of the bladder from which they arise. Under most circumstances however an entirely satisfactory clinical division is not easy or simple.

The most common type of benign tumor of the bladder is the so-called papilloma, which may be either on a broad base or pedunculated, or single or multiple. Virchow refers to this type of tumor as papillary fibroma while Kuster speaks of them as papillary polypi or simply papillomata.

While these tumors of papillary type are most often benign, I wish to emphasize that all papillary tumors are by no means benign and if one views all of them with suspicion he will make fewer mistakes. As far as bladder tumors are concerned I believe that they should all be considered malignant until they have proven themselves benign. It has been my privilege to observe a case, supposedly benign bladder papilloma which had been removed by conservative means, by the intra-vesical snare by no less an authority than O. Zuckerkandl of Vienna, show after two and one-half years distinct atypical epithelial proliferation at the base. This may be taken almost as an axiom, that a large number of papillary vesical tumors under careful microscopic examination show no atypical proliferation in the papillae themselves, but that often the base of the tumor will prove to be distinctly malignant.

Benign tumors other than papilloma are much less frequent but the following may be mentioned, fibroma, myoma, adenoma and mixed and rarer types have occasionally been reported. Of chief importance is possibly carcinoma of the bladder when it is recognized as such either by the usual clinical methods or after study of the microscopic section.

Carcinoma either appears as a distinct tumor growing into the cavity of the bladder or as a flat infiltrating proliferation within the bladder wall. In the first instance the tumor may have as with papilloma, a broad or pedunculated base, its surface may be smooth, nodular or indeed papillomatous, so that confusion with benign tumors of this type is easy. The papillary excrescences are similar in both benign and malignant growths, their bases are very different; this difference however can usually be detected by the microscope or in certain cases by palpation from the rectum. Flat carcinomata may be of a scirrhous, alveolar or occasionally melanotic type; and appear as diffuse infiltrations of the bladder wall. As is the case with benign tumors carcinomata appear either singly or multiple; furthermore it has been noted that the same bladder may show a papillary type of carcinoma and

*From the department of Genito-Urinary Surgery, Michael Reese Hospital.

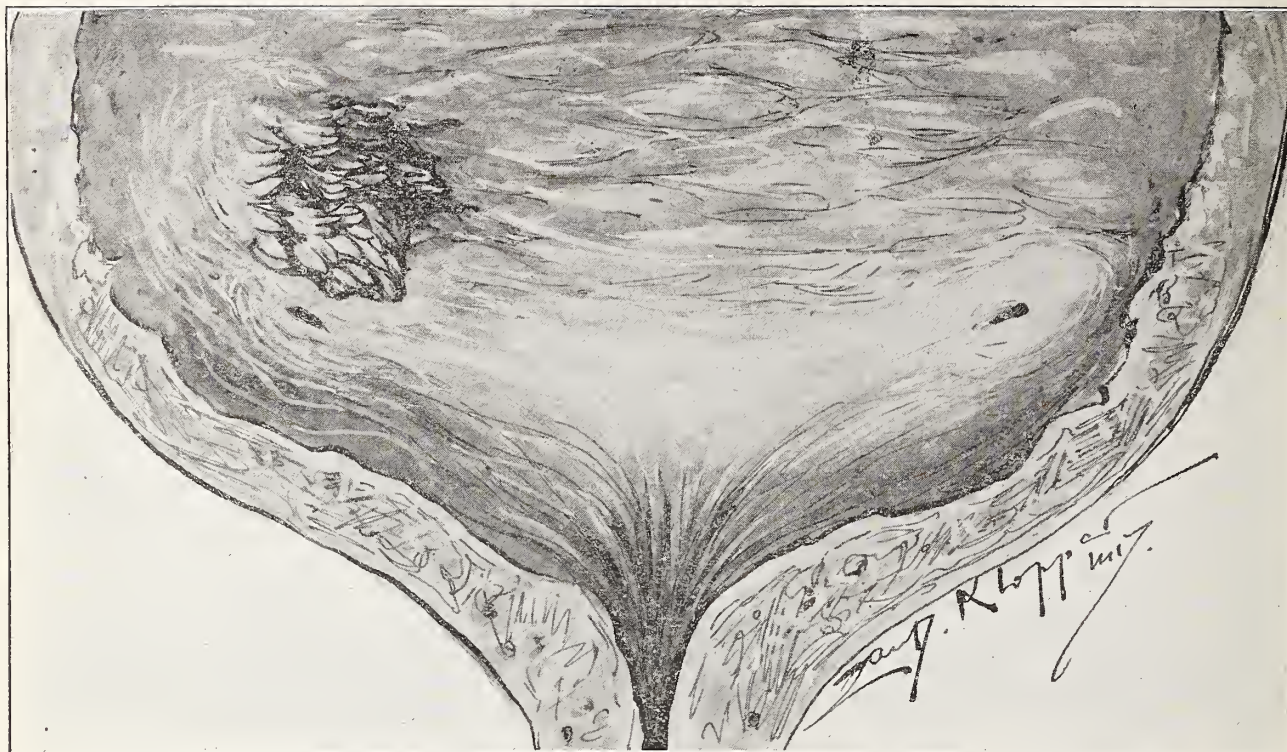


Figure 1—Papilloma of bladder, located above the right ureteral orifice, arising from broad base.

at the same time the infiltrating variety, likewise after operation the papillary type may recur as an infiltrating cancer.

The papillary type sometimes assumes enormous proportions and may almost fill the bladder cavity. Of the etiology of carcinoma here as well as elsewhere, we know nothing definitely, however workers in anilin dyes particularly have shown a high percentage. Certain parasites have been thought in certain cases to be at least accessories in its causation, the *dichoma-hæmoglobinum*.

Men are more often affected than women, with primary carcinoma of the bladder. In women metastasis from uterine carcinoma is not rare, while in men some bladder cancers are simply advanced prostatic tumors which have eroded through. The trigone is the most frequent location for malignant tumors, then the bas-fond and ureteral regions, while the side and upper bladder walls are the more common sites for benign papillomata. There is nothing definite or precise however in this localization. Malignant tumors of the bladder usually remain localized for a rather long period and metastasize relatively late. All bladder tumors have the following symptoms in common, although all do not necessarily occur in each case.

1. Hematuria.
2. Pain.
3. Difficulty in emptying the bladder. (Dysuria.)

4. The passage of tumor fragments.

Hematuria is of greatest importance and may be for years the only symptom of the condition. It has rather typical characteristics.

- a. It is usually abundant.
- b. Of long duration.
- c. Of spontaneous appearance. Often unpreceded by trauma, bodily activity, or even slightest exertion.
- d. Responds very slightly if at all to therapeutic efforts.

- e. And finally clears up without any apparent reason, to stay away possibly months or even years.

The hematuria may not be associated with either pain or tenesmus. One can draw absolutely no conclusions as to the type of tumor from the extent of the bleeding, inasmuch as carcinomata sometimes bleed very little and benign papillomata may bleed profusely. One characteristic seems however in the majority of cases to be quite reliable, viz., that a tumor which bleeds more or less constantly with free intervals of but one, two or three days, is almost always malignant.

Pain is an inconstant symptom, and is dependent largely upon the location and size of the tumor and the presence or absence of an associated cystitis.

The passing of tumor fragments does not occur in most cases, but when it does is of great value. The chief diagnostic aid today is of course cystoscopy, the technical minutia of which

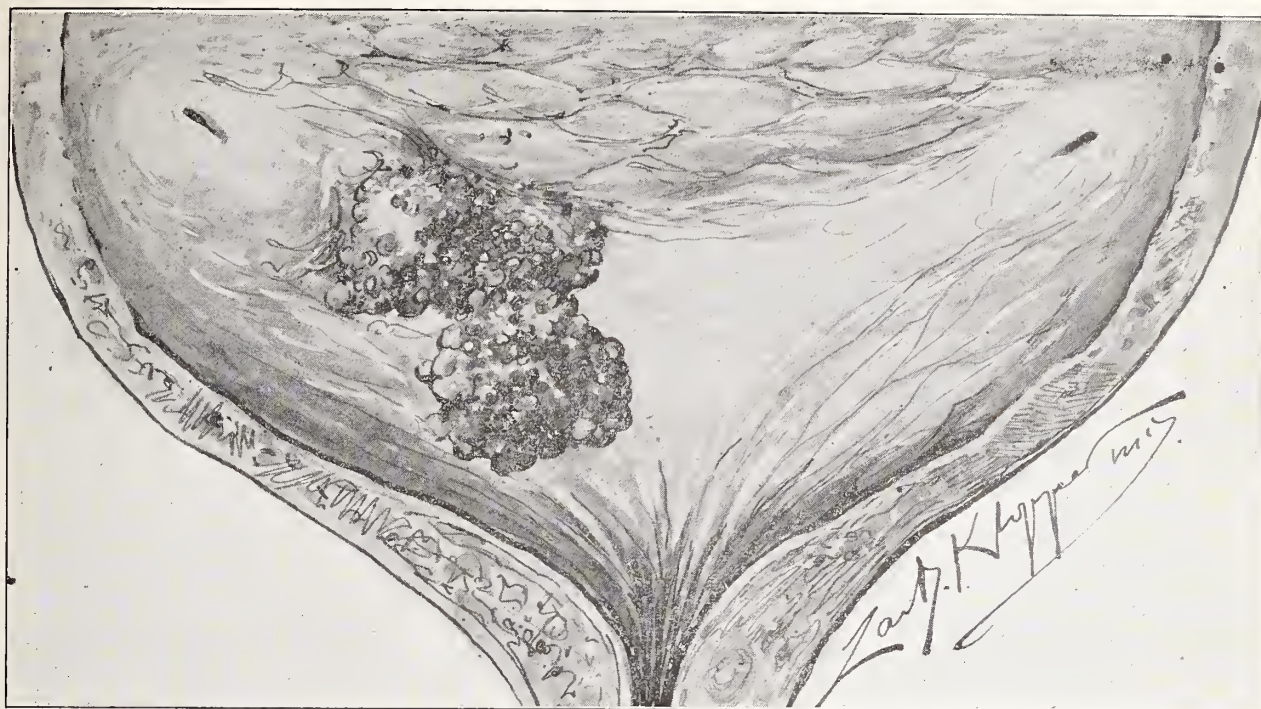


Figure 2—Carcinoma of bladder, located in tri-gone below the right ureteral orifice showing distinct infiltration at base of tumor.

are unnecessary details. As regards diagnosis of malignancy the microscope must in all cases decide and the examination should be most searching. The complications of bladder tumor include first, cystitis, which appears either spontaneously or as a result of catheterization. Its spontaneous occurrence is much more frequent and appears earlier in malignant tumors, cystitis as a complication of bladder tumor has the same characteristics as when not associated therewith, except for the greater frequency of hematuria, and its obstinacy to treatment. This is largely due to the presence, especially in malignant tumors, of ulcerations which permit the bacteria to lodge therein and serve as foci for the recurrence and spread of infection.

Other important complications of bladder tumor are secondary lesions of the upper urinary tract, for example, stasis in the kidney in cases where the tumor is situated at the ureteral orifice where it practically or wholly occludes the same. Therefrom result, hydronephrosis or pyonephrosis and not infrequently pyonephritis. The complications occur much earlier and more frequently with malignant tumors.

In several cases which have come under my observation in the past few weeks I have been impressed by the remarkably good state of nutrition and general wellbeing of the patients. They were all above the average in weight and their hemoglobin percentages were between 80 per cent and 90 per cent. The youngest patient of

these four cases was a man of forty-six years of age and the oldest a man of sixty years. The diagnosis was in each case verified by microscopic examination, so that we assured ourselves that we were not dealing with benign tumors which *only appeared* to be malignant.

The treatment of tumors of the bladder based on modern principles of diagnosis and surgical technique has today reached a much higher plane than it held a decade or even five years ago.

The symptomatic or palliative treatment in cases of benign and malignant tumors is the same, and will be simply mentioned in passing. We must combat, the pain, dysuria and bleeding. This is done by hypnotics, sedatives and the use of instillations or vesical lavage. In cases of massive bleeding a catheter a demeure is of great value for permitting a continuous exit for the blood and at the same time allowing frequent irrigation or instillation if such is thought advisable. The severe pain and tenesmus is in this way best combatted.

The radical treatment of tumors of the bladder means the removal of the growth, either by the intravesical method by means of the operating cystoscope by which the tumor is either snared off, cauterized or subjected to the high frequency spark or the strictly surgical and usually more satisfactory excision. More recently still the diathermic method by which one is enabled to excise the tumor base and all, by means of the Forest needle, at the time occlud-

ing the lymph channels and blood vessels seems to be the very best means of active treatment. The cases thus treated are then given deep Roentgen therapy.

The large "button electrodes" are used for treatment of the base accomplishing a thorough coagulation which penetrates all coats of the bladder wall. The treatment is practically bloodless and the "coagulated" base assumes a leathery hardness and is within the course of ten or fourteen days exfoliated. The cases thus treated are then given deep Roentgen therapy at intervals of sixteen to eighteen days, in the hope that any aggregation of cells which had already found their way into the lymph channels or lymphatic glands may be destroyed. At Michael Reese Hospital this method is now used in selected cases, results of which will be detailed at a later date.

Experience has shown that the advantages of diathermic treatment with subsequent deep X-ray exposures, is not only theoretical but actual. The fact however should be emphasized that X-ray treatment is *only* of value when the rays are of great penetrating power. Special apparatus permitting prolonged exposures up to seventy-five and even ninety minutes with practically no variation in tube hardness is required.

The after treatment is of great importance and depends chiefly upon putting the bladder at rest and preventing any accumulation of blood clots. This is best carried out by syphonage from the cystotomy wound.

CIRCUMCISION OF THE TONSIL

A Preliminary Report, Illustrated

F. G. MURPHY, M. D., Mason City

By circumcision of the tonsil is meant its complete detachment from the pillars and the breaking up of other adhesions that may be formed about the tonsil. It is an office operation, practically devoid of pain or hemorrhage, and is best performed under local anesthesia of adrenalin and cocaine. What the future will show for the merits of this operation only time can determine. However, the results in ninety cases the last six months, have been so satisfactory that this preliminary report is made.

The writer's attention was called to this operation under the following circumstances: a man, aged forty, came with his physician one year ago to have his tonsils removed but owing to the fact that he could not remain over night in the hospital it was not thought advisable to remove them.

His physician suggested that the pillars be separated from the tonsils completely and that he could then remove them at a later date. The tonsils were separated from their peripheral attachments at that time and two weeks later his physician informed me that the large tonsils that had been prepared for enucleation had so thoroughly atrophied that there was but little tonsil to remove. The favorable results with this patient induced me, six months later, to try it out on others. The results have been so favorable that now from one to five a day are operated, most of them patients who would not submit to a total extirpation of the tonsils.

Abundant opportunities may be afforded surgeons to perform this operation on those who have septic tonsils and who are not physically able to withstand a tonsil enucleation or who hesitate to do so. The results have been equally favorable in hypertrophied tonsils. These results have led me to observe the action of the superior constrictor muscle and the faucial pillars during deglutition. As water passes the pharyngeal cavity or as the patient retches when the tongue depressor is placed in the mouth, it is seen that the constrictor muscle throws the normal tonsil in the clear from the anterior and posterior pillars which, in turn, constrict the base of the tonsil anteroposteriorly figure 3. At the suggestion of food going either up or down, the contraction of the palatal and constrictor muscles is the same. One has only to cause the patient to gag when the tongue depressor is used to determine whether the constrictor muscle is capable of forcing the tonsil in sufficiently so that its base may be engaged between the constricted palatal muscles, or whether, because of attachments of the plicæ, the pillars ride the tonsils.

It is evident, that, when the tonsil is attached to the pillars, neither the tonsil nor the pillars functionate properly, and, in all the diseased tonsils I have observed the last six months, these attachments were formed. The attachment of the anterior pillars to the tonsils, by the plicæ, is usually easily seen though it is not always so. The adhesions may be behind and a considerable distance from the free edge of the pillar, and this condition is as liable to exist in a large hypertrophied tonsil as in one much atrophied.

It is sometimes necessary to explore the parts thoroughly to find these adhesions. In my opinion, it is the improper action of these muscles during deglutition that produces the diseased tonsil. As the pillars approach each other and press against the constrictor muscle, causing, in deglutition, the tonsil to be constricted at its

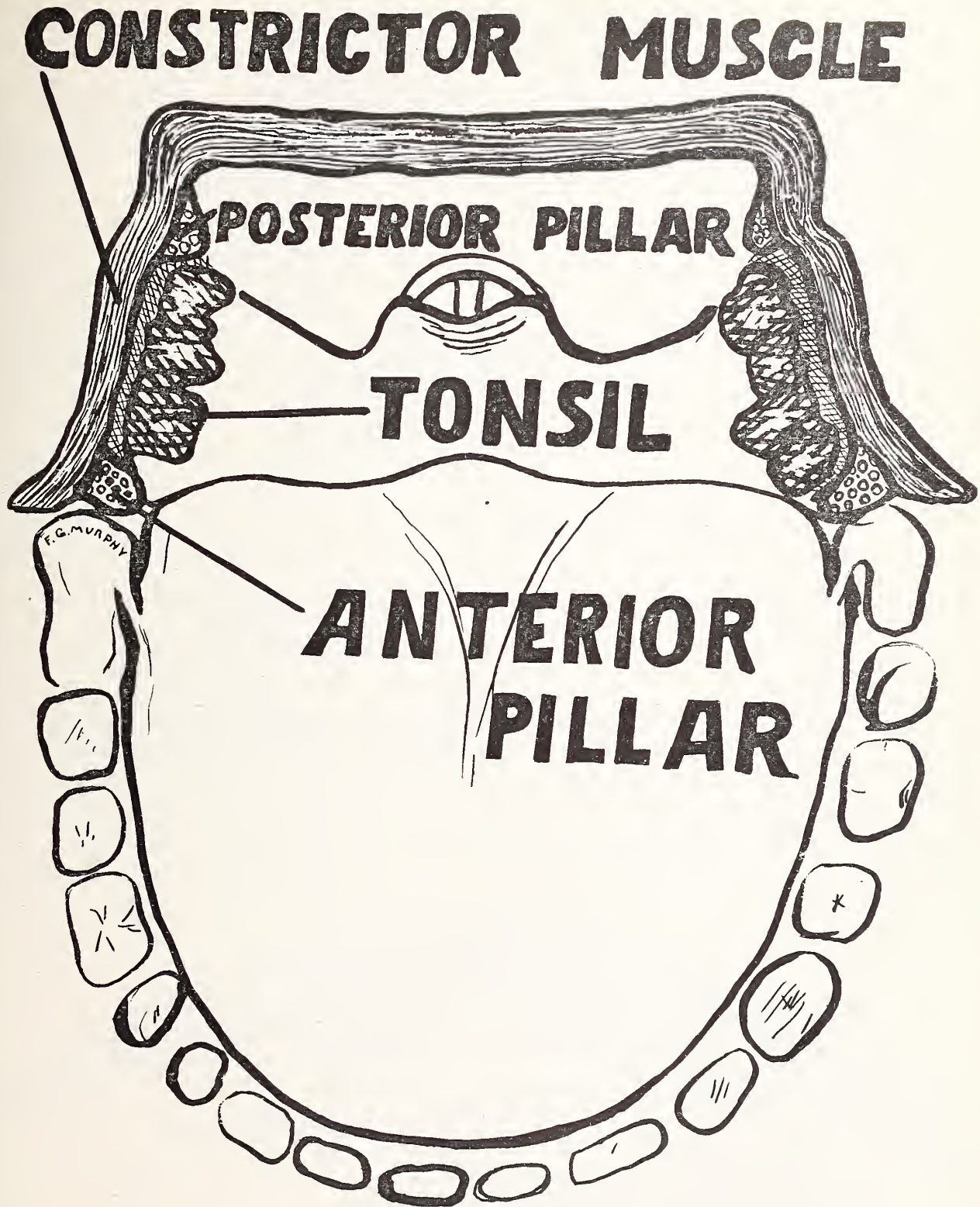


Fig. 1.

Horizontal section of head on line with center of tonsil, showing superior constrictor muscle completely relaxed. Tonsils are evidently normal and pillars are not attached by plicae to tonsils.

Taken from Toldt, "Anatomischer Atlas," 1907, 5th Aufl, Berlin.

base, they are incidentally milking the crypts of the tonsil. When the pillar and tonsil are attached, this milking process of the crypts does not take place. When adhesions are present, the anterior pillar rides the tonsil, as in figures 5 and

6, its normal drainage is interrupted, infection taking place as in any sinus where drainage is obstructed and pathogenic bacteria are present.

In a large tonsil (figure 5), where the anterior pillar is adherent to it, the pressure on the

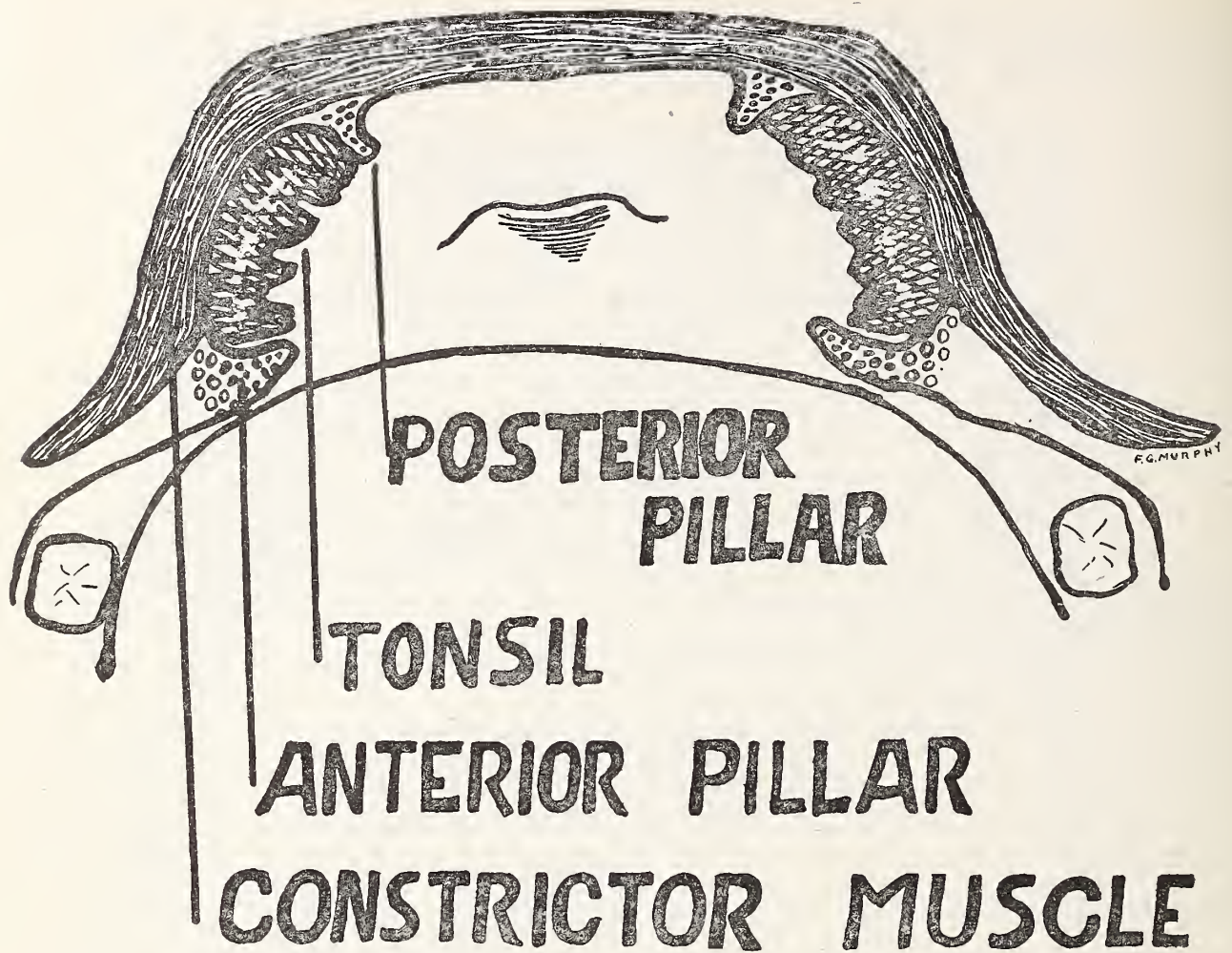


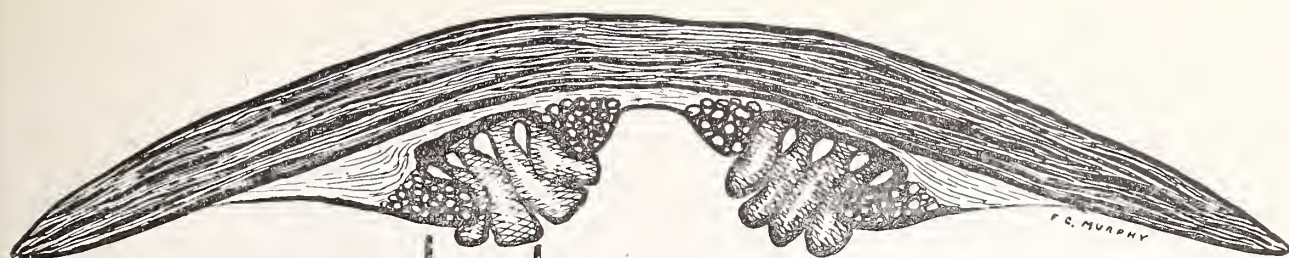
Fig. 2.

Horizontal section of head through center of tonsil as in Fig. 1, but showing constrictor muscle partly contracted. Pillars not attached by plicae to tonsils.
Taken from Cunningham: "Text-Book of Anatomy," 4th Edition 1913 Edinburgh.



Fig. 3.

Horizontal section of superior constrictor muscle as in deglutition forcing the tonsils outside the pillars which contract behind the tonsils milking the crypts.



LARGE TONSIL ANTERIOR PILLAR

Fig. 4.

Adhesions causing anterior pillars to ride the tonsils during deglutition producing hourglass contraction of tonsils converting crypts into retention cysts.
(Schematic.)

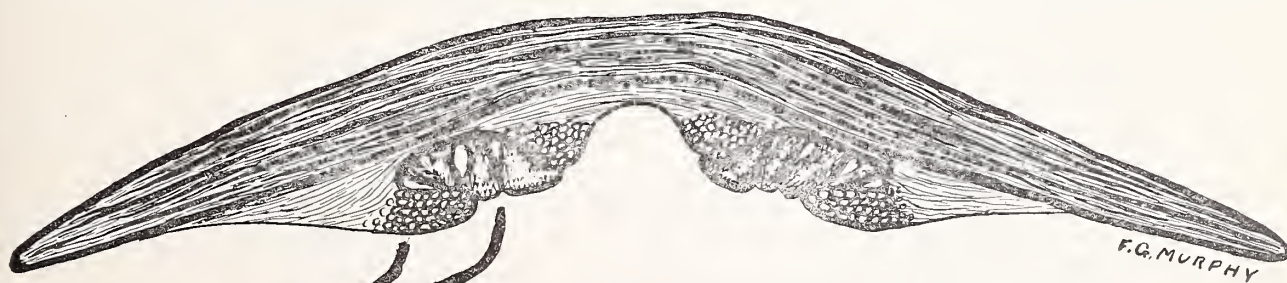
tonsil is near its center, causing an hour glass constriction of the crypts thereby interfering with the normal milking process of the deeper portion of the crypts, producing retention cysts.

With the tonsil entirely separated from the pillars and when these pharyngeal muscles milk the tonsil crypts, there can be no retention cysts, and consequently no chronic lacunar tonsillitis. If, as MacLachlan* thinks, peritonsillitis is likely of extratonsillar origin, there is little probability of an attack of quinsy occurring when the anterior fossa and supratonsillar fossa are freed from all adhesions.

Several patients voluntarily expressed the

opinion that they could swallow more easily than they could before these tonsillar attachments were severed, and that there was not the drawing sensation in deglutition that they had previously experienced.

The question as to whether the pillars will not again attach themselves to the tonsil is often asked. In five operations, adhesions have occurred within a few days though in these operations the circumcision of the tonsil was not thoroughly performed. On these patients, a second operation was performed with no adhesions following. If the severed attachments again unite, it will be within a few days after the operation.



SUBMERGED TONSIL ANTERIOR PILLAR

Fig. 5.

Anterior pillars riding buried tonsils because of attachments, thereby preventing normal milking process of crypts during deglutition.
(Schematic.)

*Dr. W. W. G. MacLachlan, instructor in pathology to the University of Pittsburg, in a treatise on a histo-pathological study of tonsillitis published by the University of Pittsburg Medical School, pathological laboratories 1912.

After the tonsil has been separated from its pillars, two newly cut surfaces are in contact. However, during every act of deglutition they are entirely separated, the superior constrictor muscle forcing the tonsil toward the center of the pharynx and the pillars hugging closely to the constrictor muscle and behind the tonsils, preventing adhesions from taking place. If the operation is not thorough, the pillar will ride the tonsil and adhesions will take place as they do in the abdominal cavity where two newly cut surfaces are in contact, for, while there is considerable movement to the abdominal parts, the movement of both denuded surfaces is in the same direction. This is the reason too that slitting the crypts of the tonsil has never been successful.

For the last few years, the trend of the profession has been toward the total extirpation of

o'clock that afternoon and with practically no inconvenience to themselves. The operation causes the patients so little inconvenience that those in poor health and who are even bedridden may take advantage of it. On April 27th, this operation was done on a girl aged twenty who had been bedridden for nearly a year with colitis. The operation was made upon the advice of her physician and when a tonsillectomy could not even be considered.

On March 7th, a man, aged thirty-five, was referred to me by his physician, who had tonsillitis of the left side and peritonsillitis of the right side. Adhesions in the supratonsillar fossa and the anterior pillar on the left side were separated with the view of preventing the development of quinsy on that side. However the peritonsillar abscess developed. On June 11th, he reported at my office. The left supratonsillar arch was more than one-half inch higher than the arch on the right side. The crypts were clean and the tonsil seemed in every way



PLICA TRIANGULARIS INCLOSING TONSIL

Fig. 6.

Large plica triangularis inclosing tonsils producing diverticula of the crypts.
(Schematic.)

apparently non-essential organs such as the gall-bladder, appendix, and tonsils. However, if it were possible to render the gall-bladder and the appendix permanently inoffensive, no surgeon would advise their removal.

While total extirpation of the tonsil removes that source of infection, the danger of hemorrhage with the subsequent inconvenience to the patient, with the fact that it is a hospital operation, takes it out of the class of minor surgery. While all of my operations for circumcision of the tonsil have been done in the Park Hospital, they have not been performed in the operating room but on the office floor of the hospital.

The operation is performed under local applications of cocaine and adrenalin and is devoid of hemorrhage or pain. On June first, four nurses in the hospital were operated between the hours of twelve and one o'clock and all went on duty at one

normal. The crypts on the right side were filled with debris.

It is safe to say that three times as many people will submit to circumcision of the tonsil as will to enucleation.

There is another class of tonsils where the plicæ produces the greatest and sometimes the only offence by enclosing part or all of the tonsil (figure 6). By dissecting away the plicæ, the pillars will engage in their milking process of the crypts unless there happen to be attachments between the pillars and the tonsils and in the supratonsillar fossæ, all of which should be separated.

On May 28th, the pathologist to the Park Hospital sought to have me confirm his opinion that his tonsils had completely atrophied. It was found that he had very small tonsils completely

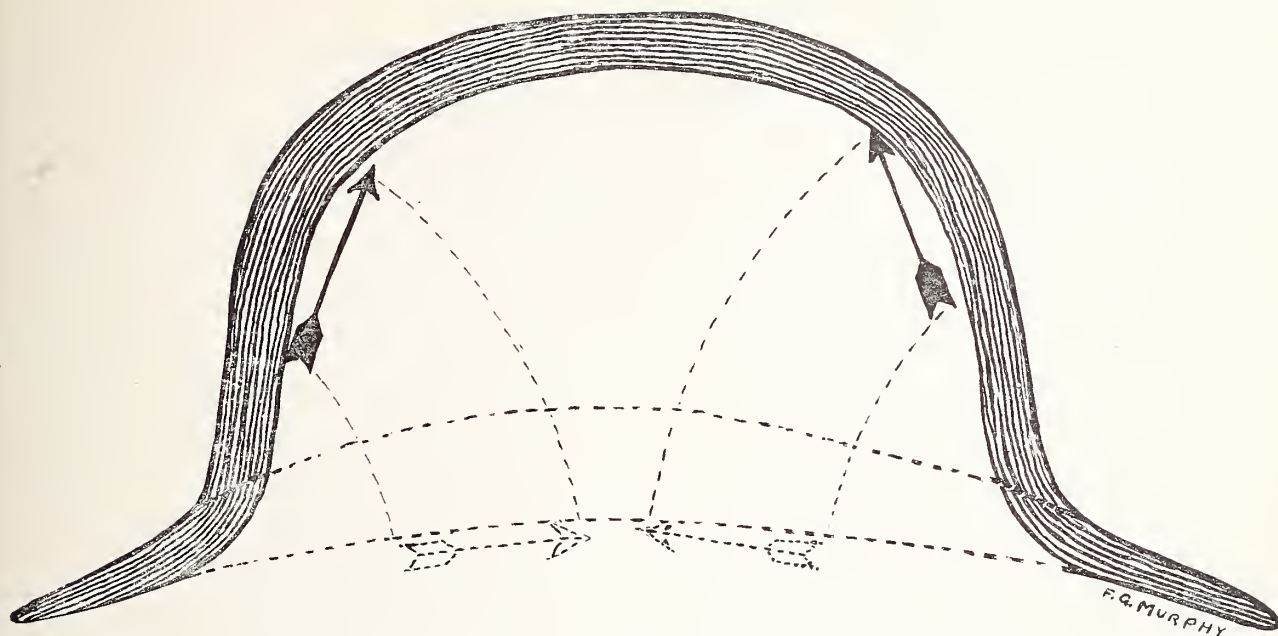


Fig. 7.

Dark crown of derby hat representing superior constrictor muscle relaxed. Black arrows representing position of tonsils.
(Schematic.)

enclosed by the plicæ. This membrane was dissected away and a foul smelling, cheesy substance was removed. There were no other attachments, and within ten days the tonsil was in apparently healthy condition.

In this operation, if the anterior pillar does not slide freely to the base of the tonsil when the patient gags, the separation is not complete, no matter how small the tonsil may be. The oper-

ation must be thorough to obtain the best results. If the tonsils are of the ordinary size, the amount they will atrophy within a few weeks is very noticeable. After the operation in badly affected tonsils where the milking process has begun, debris from the crypts may be seen thrown out upon the tonsil for a week or more. Several patients who showed no pathology of the gums or teeth nor evidence of tonsil infection, because

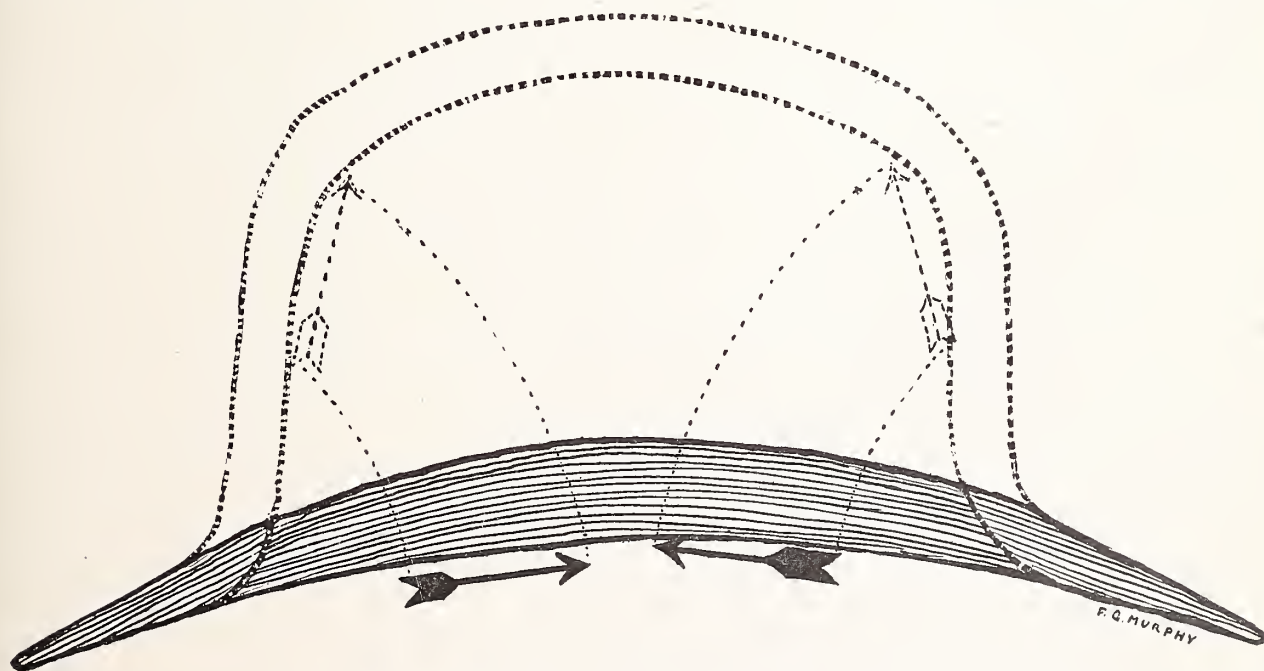


Fig. 8.

Dark brim of derby hat representing superior constrictor muscle contracted as in deglutition with black arrows showing relative position of tonsils.
(Schematic.)

of an offensive breath, have had this operation performed with good results.

If the surgeon does not succeed in separating the necessary attachments to the tonsil at the first attempt, he can easily complete the operation ten days or two weeks later.

The convenience and lack of pain and hemorrhage in the operation appeal to nearly every one who is conscious that his tonsils contain septic material. The operation commends itself to the judgment in this respect, too, that, should the benefits derived not meet the patient's or surgeon's expectations, no harm will have been done, for, should enucleation be decided upon later, it would be much easier to perform. Up to the present time, it has not been necessary to do an enucleation on any of my patients who have had the circumcision operation performed.

It is now conceded by the profession that the infection in appendicitis, cholecystitis, pancreatitis, and ulcer of the stomach is frequently of tonsillar origin, therefore, the circumcision of the tonsil, being an operation which causes so little inconvenience to the patient, as a prophylactic measure, finds ready acceptance.

SCOPOLAMIN-MORPHIN IN LABOR

An unfavorable report, on the whole, based on a critical analysis of sixty cases, treated in the obstetric service of Drs. Frankenthal and Cary at Michael Reese Hospital, Chicago, is given by J. L. Baer of that city in *The Journal A. M. A.*, May 22, 1915. The method of administering the treatment and the surroundings and hospital facilities are given in detail. The dosage varied from one-eighth to one-quarter grain morphin and from 2/200 to 9/150 and 11/200 grains scopolamin hypodermically. At the close of each case, a brief impression of the same was written, and is presented verbatim in groups arranged according to success or failure. Twenty-six cases are marked as not successful; seven, little success; eight, partial success; five, fair success; eight, good success; and in six the treatment was completely successful. Marked differences in dosage effective conversely to the total amount used indicate the uncertainty of outcome in any given case. The average duration of the so-called first stage (17:10, primiparas and 14:15, multiparas) exceeded that of a series of one year ago of the same number of cases, taken for comparison, by about seven hours, while the second stage in the two series was about equal. It is noted, however, that the total number of bimanual examinations made on the entire sixty cases was only seventy-seven. Every patient admitted to the Michael Reese Maternity is examined once bimanually as soon as prepared after admission, and not afterward, unless there is the strictest indication for it, hence the onset of the second stage had to be determined in most cases by other means, such as rupture of

membranes, bearing down pains, etc., and as a result, the seven-hour retardation period should be considered as applying to the combined first and second stages. Pituitary extract was apparently not resorted to, as its use in the Michael Reese Maternity service is limited sharply to the end of the second stage, when it will be of most benefit and least disadvantage. Memory tests were carried out conscientiously, without necessarily disturbing patients seemingly somnolent. In twenty-six it remained throughout labor, thirty-nine were cloudy, but the twenty-six had a greater total of the drug than the thirty-nine. Twenty-two complained bitterly of a distressing thirst, and headache and vertigo were present in twenty-seven and thirty-one cases respectively, the former sometimes intense and lasting several days. Forty-three patients slept part of the time. Pain was diminished in thirty-nine cases, absent in one, and average in nineteen, and increased in one. Restlessness was present in eighteen cases and delirium in nine, and caused the most annoying phase of the whole investigation, calling for unremitting watchfulness. The risk of self-infection during labor was a source of constant anxiety, and it was next to impossible to keep the birthparts clean. In one case, rupture of the uterus occurred, an accident which had been thought possible. Birth in all cases but four was spontaneous. Amnesia at birth was entirely absent in twenty-eight, present in twenty-six and marked in five. Analgesia was present in four, slight in five; pain was average in thirty-seven, and marked in eight. Perineal tears occurred in twelve cases, and were repaired immediately, according to the routine at the hospital. Respirations in the baby were spontaneous in forty-six cases, and aid was needed in thirteen. One still birth occurred in case sixty-two, rupture of the uterus, with escape of the fetus into the abdominal cavity and prompt death of the mother. Of the late lasting symptoms most complaint was made of blurred vision. Two had marked delirium for two and four days postpartum. After-pains were noteworthy in eight cases. Spontaneous delivery of the placenta occurred only twice. Baer says in conclusion: "The prolongation of labor, the increase in the number of fetal asphyxias, the excessive thirst and intense headaches that are so distressing, the difficult control of patients and avoidance of infection by soiling of the genitals, the more frequent postpartum hemorrhages, the blurred vision, the ghastly delirium persisting far into the puerperium, the inability to recognize the onset of the second stage unless by risk of more frequent examinations, the masking of early symptoms such as antepartum hemorrhage, rupture of the uterus and even eclampsia, the violence and uncertainty of the whole treatment, the general bad impression given to our patients who are being taught to approach the 'horrors of labor' in fear and trembling, constitute so severe an arraignment of this treatment of labor cases that we feel compelled to condemn it, leaving open the question of the merits of a single dose of morphin and scopolamin in those cases in which we have hitherto given morphin and atropin."

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MEDICAL LEGISLATION AT THE LAST SESSION OF THE LEGISLATURE

Dr. Thos. F. Duhigg, chairman of the Committee on Medical Legislation, has favored us with some notes that might well be considered by members of the profession. Dr. Duhigg calls particular attention to the fact that the last General Assembly was to be credited more for the bad bills they rejected than for the beneficial ones enacted. One of the special reasons that might be given for the failure to enact beneficial bills was the fact that they carried an appropriation of funds which the Legislature did not seem disposed to be especially generous with. The measures passed by the General Assembly were a law providing for the care of crippled children at the hospital of the State University at Iowa City at the expense of the county in which the patient lived. Legislation incurring expenses to be assessed to the counties, have generally failed on account of the unwillingness of the county to create expenses.

One of the weak points in our poor laws, and one which has been a discredit to the state, grows out of the fact that the cost of maintenance of the poor is charged to the county, and the care of the county poor has been really a disgrace to a great and intelligent state like Iowa. A law was also passed providing for the reporting and placarding of measles, whooping cough, chicken-pox, and mumps. Five thousand dollars was appropriated to be used under the direction of the State Board of Health for epidemiologic work in

analysis of samples of water from municipal water plants. The Vital Statistics Bill, the Medical Library Bill, Child Welfare, Laboratory Bill, the Bill requiring that tuberculosis, typhoid fever, pneumonia, and puerperal fever be reported, and a bill regulating the practice of drugless healers, were defeated.

Dr. Duhigg says:

"I feel that any report of legislative matters would be incomplete without special reference having been made to House File No. 88, which was a bill to regulate the practice of Chiropractic. This was a bill which should permit chiropractors to treat the sick after twelve months, so-called professional training, without any preliminary requirements. It was drawn by the representatives of the chiropractors themselves, and introduced and passed the House virtually without amendments. This can be explained only on the grounds that promises were exacted from nearly all of the representatives long before the legislature convened. It was mentioned to most of them in the primary election, again at the general election, and again after their election. Many of the representatives felt that some legislation should be enacted regulating their practice, and without any clear idea of just what the bill should embody, felt that they should redeem their promise by voting for the so-called chiropractic bill. The bill made no appeal to one's reason, and could not be defended upon any grounds.

The health committee in the House offered as a substitute for House File No. 88, Committee Bill No. 471, which would require a high school education and three years of nine months each professional training, including all the scientific branches, except surgery and therapeutics. This appealed strongly to their reason and understanding and sense of responsibility to the public. Of the health committee in the House, which was composed of seventeen members, but two were outspoken against House File No. 471. However, the whole House of 108 members, could not be educated in a short time, but as far as we were able to reach them, they were convinced.

There are four important differences between House File No. 88 and House File No. 471. (H. F. No. 471 is identical with the Perkins Bill, known as Senate File No. 565.)

H. F. 471 AND S. F. 565

1. Retains the present Board of Examiners.
2. The Board of Examiners is the judge of the quality of the Chiropractors' schools.
3. Requires three years of nine months each.
4. States the branches that must be taught in order to put the school in good standing. The branches include all the scientific branches, except therapeutics and surgery.

H. F. 88

Creates a special Board of Examiners for Chiropractors.

No provision is made that the schools shall maintain any standard in order to be recognized.

Requires but two "terms" of six months each, which may both be taken in a single calendar year.

Merely requires that they shall have graduated from an "organized school," without stating what branches must be taught or what standards must be maintained.

Committee Bill No. 471 was reported for passage. It was moved by Miller of Bremer to substitute

House File No. 88 for the committee bill. The following is the vote on that motion:

Those voting for House File No. 88 were: Anderson of Green, Ball, Barry, Brady, Bronson, Bruce, Clark, Cochrane, Craven, Crozier, Darrah, Doze, Eggleston, Elwood, Freeman, Gilmore, Grason, Gray, Greene, Griffin, Hale, Helming, Herman, Holbert, Horchem, Ingwersen, Jamison, Jones of Cerro Gordo, Kane, Kelso, Kimberly, Klinker, Kopp, Lenocker, McFarlane, McFerren, Mackie, Michael, Miller, Nordyke, Oldenburg, Petersen, Pitt, Purdy, Rayburn, Rees, Reese, Richards, Ring, Rowles, Sawyer, Schmedika, Shortess, Smith, Spotts, Stokes, Swain, Swenson, Tucker, Turner, Wayman, Wilson of Cherokee, Wilson of Mahaska, Wilson of Mitchell—64.

Those voting for Commtee Bill No. 471: Anderson of Montgomery, Anderson of Winnebago, Anderson of Davis, Bauman, Becker, Bingham, Brammer, Buxton, Coakley, Coast, Durant, Garton, Gilbert, Hadley, Hall, Jessen, Jones of Dickinson, Kepple, Lee, Lueders, McDermid, Moore, Munro, Murray, Nicholson, Rogers, Rone, Slaughter, Steele-smith, Stone, Sullivan, Taylor, Thompson, Wenstrand, Wilson of Louisa, Witthauer, Mr. Speaker—37.

Absent or not voting: Bailey, Johnston of Humboldt, Johnston of Lucas, Neff, Roberts, Shaeffer, Wigdahl—7.

House File No. 88 then went to the Senate, where it passed the Senate Health Committee and was reported out for passage. However, on the same day that it was reported for passage by the Health Committee, Senator Perkins introduced Senate File No. 565, which was similar to House File No. 471. When House File No. 88 came up for consideration in the Senate, Perkins moved that his bill No. 565, be substituted and it carried with the following vote:

For—

Balkema, Boe, Clarkson, Darrah, Eversmeyer, Enger, Farr, Fellows, Foskett, Foster, Francis, Greene, Helmer, Larrabee, Lindly, Parker, Perkins, Schrup, Taylor, Thomas, White of Benton, White of Iowa, Whitmore, Wilson. Total 24.

Against—

Allen, Arney, Caswell, Chase, Crist, Doran, Grant, Hagemann, Henigbaum, Hilsinger, Jackson, Laffer, Nye, Quigley, Robinson, Sheean, Thompson, Voorhees. Total 18.

Absent—

Fleck, Frailey, Gillette, Heald, Jones, Kimball, Ream, Savage. Total 8.

This placed the Perkins Bill on the calendar, and after one or two unimportant amendments, was voted upon for final passage, failing by but one vote, twenty-six votes being necessary for a constitutional majority:

For—

Balkema, Clarkson, Darrah, Eversmeyer, Enger, Farr, Fellows, Foskett, Foster, Francis, Greene, Helmer, Jackson, Kimball, Larrabee, Lindly, Parker,

Perkins, Robinson, Savage, Schrup, Taylor, White, White, Whitmore. Total 25.

Against—

Allen, Arney, Boe, Caswell, Chase, Crist, Doran, Grout, Hagemann, Heningbaum, Hilsinger, Laffer, Nye, Quigley, Sheean, Thomas, Thompson, Voorhees, Wilson. Total 19.

Absent—

Fleck, Frailey, Gillette, Heald, Jones, Ream. Total 6.

This vote of the Senate was gratifying from our standpoint, because it showed the Senators to be responsive to appeals to their reason and understanding. Being a smaller body it was a smaller task to deliver the information necessary to convince them of the right and justice of the Perkins Bill. Further, by this time, the fallacies advanced by the chiropractors were so well known and so completely answered that it was a real pleasure to participate in the distribution of information which left the chiropractors without any foundation whatever.

In conclusion, it must be remembered that Legislators who are conscientious are very busy on many different committees and with many important subjects. For this reason, it is necessary to bring abundant information to convince them of the right or wrong of any proposition. They are open minded, intelligent, honest and are trying their best to decide questions in the interests of all the people.

The vote in the House shows the result of the activity of four hundred chiropractors, who by their persistence gained an advantage in spite of their fallacies. On the other hand, the vote in the Senate shows that right must ultimately triumph and that fallacies cannot stand analysis.

Two years hence, a just and reasonable bill for the regulation of drugless healers will be presented. It will be introduced early and supported with arguments that cannot be contradicted. I have sufficient confidence in the intelligence of the next Legislature to believe that any bill enacted will safeguard the interests of all the people."

This leaves medical legislation in Iowa, so far as relates to the practice of medicine, where it was before the meeting of the last General Assembly, and the chiropractors still remain without legal recognition in this state. A Bill was introduced to reorganize the State Board of Health, but the provisions of reorganization were so extraordinary and so unwise that it failed of passage.

We would suggest that the members of the regular profession who are interested in the welfare of legitimate medicine, would note the way their member of the House and Senate voted upon House File 88 and which was the bill introduced and supported by the chiropractors and their attorney. Mr. Haines, an attorney, at Des Moines, was employed by the chiropractors as lobbyist to secure the passage, if possible, of

House File 88. It was contended by the osteopaths that the chiropractors were practicing the same system under another name, practiced by the osteopaths themselves, and they appealed to the Legislature to protect them against the passage of a bill which gave the chiropractors a decided advantage over them. The Committee on Medical Legislation of the State Society, based their opposition to this bill entirely upon the fact that it would allow a class of men to engage in the practice of medicine without any qualifications whatever, and that such a law would be detrimental to the best interests of the state.

CHANGES IN MANAGEMENT OF LUTHERAN HOSPITAL, DES MOINES

A few years ago the Lutheran Synod in Iowa conceived the idea of building a hospital in Des Moines, and after several years' effort, succeeded in securing money enough to construct a high grade hospital building of capacity of about 100 beds. The Lutheran people were wise enough to wait until they were financially able to construct a building with special reference to a hospital service. The hospital association, being dependent upon subscriptions of money, were obliged to leave a number of things unprovided for as far as its scientific equipment is concerned, but, having started out in the proper manner, and being actuated by the right spirit, were in position to do fairly well so far as facilities for doing work were concerned, and are in a position now to offer opportunities for its staff through personal contributions and through their friends, to make the hospital a first class institution.

Our conception of the hospital situation in Des Moines now is that there are three groups of institutions offering facilities for three groups of men to do their best in advancing medical and surgical work. There is much to be said in favor of medical men who desire to bring about the best local conditions to ally themselves with one hospital or another and loyally push the interest of that hospital. This course is better than to divide themselves between two or three hospitals and undertake to carry their views into the management of one institution or the other as temporary conditions may make it seem possible for them to do. In other words, that all parties would be better served if the Methodist Hospital group, the Mercy Hospital group, and the Lutheran Hospital group confine themselves within their own sphere of influence. It seems to be a custom on the part of many hospitals to try out

all of the methods of management that have proved failures, which must necessarily involve a good deal of expense of money and energy. The Lutheran Hospital being the youngest of the three, is in a position to avail itself of the experience of the other hospitals, and ought to be able to save much in avoiding expensive and useless experiments. The Lutheran Hospital as it might be reasonably expected, placed the management of the institution in the hands of a church man who may or may not have known about the needs of a medical institution. The time probably has not yet arrived when the management of a church hospital may be left to one not identified with church relations, yet it is to be hoped that the lay management may have such close relations to the medical staff, that the prejudice which so largely exists in the minds of medical men toward church management may be obviated.

Rev. A. O. Henry was the first superintendent of the Lutheran Hospital, who served in an acceptable manner for two years. Recently Rev. Henry resigned and Rev. F. O. Hansen was appointed to the place. In appreciation of Rev. Henry's labors in forwarding the interest of the hospital, a farewell banquet was tendered, in which many expressions of good feeling were offered by different members of the staff.

In our Hospital Department of the Journal, we called attention in the June number to the improvements in the equipment of Agatha Hospital located in Clinton. At that time we did not fully know or appreciate all that was taking place in this institution, and in justice to hospital practice, we should properly add the following which is abstracted from the Roentgen Ray Department of said hospital. According to the card issued, the institution is in possession of the "latest type of X-ray tube and machine." With this machine they are able to diagnose rheumatism, gout, loose cartilages, broken heart compensations and regurgitation, and the diagnosis of pregnancy and extra-uterine gestation. We are prepared to understand that in the hands of a thoroughly trained expert, Roentgen Rays is of considerable value in the diagnosis of diseases of the stomach and intestines, including contractions, change in motility, cancer, intestinal obstruction, and adhesions, but we are not quite prepared to accept these statements coming from the hands of amateurs in X-ray work. The card has the appearance of having been written by the agent of X-ray apparatus, whose skill in describing what his machine may do, is vastly greater than his knowledge of real X-ray work.

CHANGES IN FACULTY AND RULES ADOPTED BY THE BOARD OF EDUCATION IN RELATION TO MEDICAL TEACHING FOR THE COMING YEAR AT THE STATE UNIVERSITY

At the meeting of the Iowa State Board of Education on June 16th the following actions affecting the College of Medicine were taken:

Dr. A. H. Beifeld of Ann Arbor was elected head of the new department of pediatrics and contagious diseases in the College of Medicine. Doctor Beifeld received his B. A. from Harvard in 1903, his M. D. from Johns Hopkins in 1907. He was interne at Michael Reese Hospital 1907-1909. From 1909 to 1911 he did post-graduate and research work in the clinics of Kinkelstein, Berlin; Ibrahim, Munich; Escherech, Vienna; Schlossman, Dusseldorf. In 1913 he again visited Vienna, Berlin and Munich for the purpose of study. In 1914 he spent three months in Paris with Professor LeLage. He has filled the following positions: 1913-1914 Associate Attending Pediatrician Michael Reese; 1912-1914 Assistant Medical Director Infant Welfare Society, Chicago; 1913-1914 Assistant in Pediatrics, Northwestern University; 1914-1915 Instructor in Pediatrics, University of Michigan.

Dr. Bundy Allen of Keokuk was appointed Radiographer to the University Hospital. Doctor Allen is a graduate of Washington University, and has had two years of special work with Doctor Briggs of St. Louis.

The following regulations governing the conduct of clinical work in the College of Medicine were passed:

The hospital staff shall consist of the following departments:

- (1) General medicine including neurology and psychiatry.
- (2) Dermatology.
- (3) Pediatrics and contagious diseases including the care of medical children twelve years of age and under, and contagious diseases such as usually affect children of all ages.
- (4) General surgery, including orthopedic and male genito-urinary surgery.
- (5) Gynecology and obstetrics.
- (6) Ophthalmology, oto-laryngology and oral surgery.

The above division of work is in no way to in-

terfere with the proper care of any patient in the University Hospital.

This division of service holds for both clinical and private cases, except that the head of the department of gynecology may include in his private work in the hospital the surgery of the female abdomen.

All clinical teachers in the college of medicine shall confine themselves in their private work as well as in their clinical practice to their specialty as indicated by the subjects taught, in so far as this is practical.

Only individuals who are willing to make private practice wholly secondary to teaching are to be members of the clinical teaching force. The chiefs and assistants must be individuals who have as their main object teaching. An extensive, time-consuming private practice is not permissible.

Every person connected with the clinical teaching must spend on an average of three hours per day during the college year in the University Hospital. It is assumed that not only will the necessary teaching work and the care of the patients be carried out, but that the work will be completed from a scientific standpoint.

THE RESTORATION OF OLD TINCTURE OF IODINE

Roques (Jour. de Med. et de Chir., 1915, No. 3). On standing, tincture of iodine gradually becomes contaminated through the formation of hydriodic acid, which interferes with its usefulness. Roques has worked out an ingenious method by means of which the original purity of the tincture may be restored. The procedure is based upon two phenomena; the power of iodic and hydriodic acid mutually to destroy each other with the formation of iodine and water, and the complete insolubility of iodic acid in 95 per cent alcohol. To the contaminated tincture a small amount of finely powdered iodic acid is added, and the whole vigorously shaken for five minutes. The excess of iodic acid is then allowed to settle to the bottom; the supernatant liquid is acid-free tincture of iodine.

THE RUM RATION IN THE ENGLISH ARMY

Sir Victor Horsely, in more than one open letter and paper printed in several late issues of the British Medical for February, 1915, inveighs in forcible language against the continued use of the rum ration of ages past in the British army of today as now fighting on the continent. He claims that no less than 250,000 gallons of rum were sent across the

channel in November of 1914, and asserts that it produces loss of moral sensibility, drunkenness, decadence, loss of endurance, loss of efficiency in loading, aiming and firing and hitting the mark. He also claimed that out of total abstainers, it tended to make drunkards by telling the men that rum was good for them and that the surgeons had ordered it (by compulsion of the government). The rum ration is, in his opinion, an inheritance from the days of ignorance. When ships were obliged to stand off and fire at one another at 500 feet the worst tipsified sailor could hardly fail to hit the mark, but now that they fight sea combats at miles distant, great skill is needed and the clearest hands and brains to see and to aim and to hit the mark which, in its turn, is doing its best to blow you out of water. So, too, in the land campaigns of today, the greatest temperance and sobriety are essentials to a good result against a skilful enemy.

NEW HOSPITALS.

Drs. Coffey, Jones, Sears and Joyce, of Portland, have established the Portland Surgical Hospital for treatment of surgical cases and the Portland Convalescent Hospital for medical cases. Both institutions are open for business. An annex to the Surgical Hospital is being built which will add ten rooms.

INDUSTRIAL ACCIDENT BOARD MASSACHUSETTS

The membership of the advisory committee of the Massachusetts Industrial Accident Board is as follows: Dr. Frederic J. Cotton, Boston; Francis W. Anthony, Haverhill; Samuel E. Fletcher, Chicopee; Samuel H. Calderwood, Roxbury; Francis D. Donoghue, Boston; Frank E. Allard, Boston; William H. Ruddick, Boston, and Walter P. Bowers, Clinton. Dr. Francis D. Donoghue has been selected by the board as its medical adviser.

THE MOSQUITO CAUSED THE FALL OF ROME?

Dr. S. W. Dickinson of Marion, Va., informs us that our Teutonic ancestors did not conquer Rome because the Romans became enfeebled from warm baths and luxurious living, but because of the mosquito. "The Roman soldiers in their conquering marches in the older settled parts of the world became infected by malarial parasites and on returning to Rome were bitten by and infected the mosquitoes in the famous and henceforth pestilential Pontine marshes. Those mosquitoes then bit the hitherto uninfected Roman citizens and in time malarial fever so enervated and enfeebled them that the Eternal City became an easy prey to our yet uninfected Teutons."—(Old Dominion Journal Medicine and Surgery.)

EVIDENCE AND DAMAGES IN ACTION FOR MALPRACTICE IN TREATING FRACTURE OF CLAVICLE

(Duffy vs. Charters [Mich.], 147 N. W. R. 541)

The Supreme Court of Michigan affirms a judgment for \$1,080 damages in the plaintiff's favor, for alleged malpractice in the treatment of an oblique fracture of the left clavicle. The plaintiff's claim, supported by his own testimony and that of two others who were present, was that when the defendant came to his house all he did was to pick up his arm and place it diagonally across his breast so that the points of the fingers of the left hand were against the lower part of the right shoulder, above the armpit and below the top of the shoulder; that thereupon he applied bandages, which the defendant claimed was done in the approved method known as Sayre's dressing, but, it was claimed by the plaintiff, was not done as Sayre's method required. Whether the defendant was negligent in that he did not use a proper method in reducing the fracture was the question.

A medical witness produced on behalf of the plaintiff was asked a hypothetical question based on what the lay witnesses testified was done by the defendant when he put on the bandages. It was urged that the question was incomplete and so insufficient as to have no value in assisting the jury in determining the defendant's responsibility. The question did not contain what the defendant claimed he did in reducing the fracture, but stated substantially what the plaintiff claimed he did, as testified to by the witnesses present. Another physician described the proper method to be used in reducing such a fracture. The court holds that the testimony of the experts being based on the testimony of the plaintiff's witnesses, it was proper to have their answers stand. The question of the value of their evidence and that of the other witnesses for the plaintiff was for the jury, and was properly submitted by the trial court.

It was contended that there was a fatal variance between the plaintiff's declaration and attempted proof of a want of proper union of the broken ends of the clavicle. The declaration charged failure to put the bone or bones of the shoulder properly in apposition and to use the proper means for so placing and keeping them in apposition. The plaintiff argued that the false or fibrous union shown by the proofs was the natural result of imperfect apposition, as set forth in the declaration, and that it was therefore not necessary to specifically allege it. This was supported by the testimony of the physicians, who testified that the first step in the treatment of such a fracture is to get the ends of the bone together and keep them there, if possible, and, unless this is done, no perfect union results. The court thinks the declaration was sufficient to warrant receiving this evidence.

The jury were instructed that, for the pain and suffering which the plaintiff would have actually

sustained by reason of this broken clavicle and its treatment, if properly treated, he could not recover damages, because the defendant was not responsible for that. But for the pain and suffering which were extra, if any, which was caused by the defendant, the plaintiff could recover. Under the issue in this case, it was entirely proper to submit to the jury the question of compensation for extra pain and suffering.

BOOK REVIEWS

PYELOGRAPHY (PYELO-URETERO-GRAPHY)

A Study of the Normal and Pathologic Anatomy of the Renal Pelvis and Ureter. By William F. Braasch, M. D., Mayo Clinic, Rochester, Minnesota. Octavo Volume of 323 Pages. Containing 296 Pyelograms. Philadelphia and London. W. B. Saunders Company, 1915. Cloth, \$5.00 Net.

In the first place we should note the general appearance of the book. The character of the type and paper are ideal, the pyelograms are works of art, and the mechanical make up is of the highest order. The book begins with a chapter on the History of Pyelography followed by a chapter on Technic, including a selection of cases, the selection of the medium to be injected, preparation of the solution, methods of injection, sources of error and injurious results. Chapter III, The Normal Pelvis, illustrated with forty-six pyelograms. The author states that "the position of the normal kidney is not fixed," and proceeds to point out the deviations and illustrates with twenty-one pyelograms. The two important features of the subject are made clear by text and illustrations and a careful study of Chapter III and IV will place the operator in possession of fundamental knowledge of the subject—difficult to find in other works—of the relations of the normal kidney and the abnormal kidney, including renal torsion and the dystopic or pelvic kidney. Chapter V discusses the mechanic dilatations arising from the following conditions—mechanical obstructions, infections and tumor. Under the head of mechanical obstruction different degrees of hydronephrosis may occur, which are illustrated by a number of pyelograms and ureterograms rendering helpful aid in following the text.

Inflammatory dilatations means of course an infection and pyonephrosis and ureteritis attended by more serious changes in the ureter and in the kidney, which are described in detail. A section of this chapter is given to the study of tuberculous infection.

In relation to kidney stone the author states that the "greatest problems in the interpretation of shadows in the kidney area are their identification and their exact localization." It is here that the largest experience and highest skill is necessary; we feel warranted in saying that radiographs made by the amateur or by one of little experience are not of

sufficient evidence to base an operation on, and it may be further stated that without a reliable pyelogram a stone in the kidney cannot be safely diagnosed.

Dr. Braasch is particularly painstaking in bringing forward the difficulties and the elements of error in X-ray studies of kidney stones. The same observations may be extended to examinations for ureteral stones.

Renal tumors include neoplasms, polycystic kidney and the solitary cyst. The diagnosis of neoplasms of the kidney are often extremely difficult and uncertain by whatever method employed, and this Dr. Braasch well points out in this chapter of his book. Palpation may fail to differentiate tumor of the kidney from other neighboring structures.

Injections for X-ray examinations may in some cases involve danger, and ureteral catheterization may, in a measure, fail on account of ureteral obstruction. These several conditions deserve careful study.

Congenital anomalies constitute an interesting chapter. Many surgeons in the past have suffered serious disappointments in not being able to take certain kidney anomalies into account and many more will in the future if they fail to avail themselves of the knowledge furnished by methods of examination so well pointed out by Dr. Braasch.

This is undoubtedly the most complete work on pyelography that has been written up to this time. The many surgeons who have witnessed the almost mathematically accurate diagnoses and opinions rendered at the operating table at the Mayo Clinic, would feel even if they could not use this work in their practice, a desire to possess it as a souvenir and testimonial of admiration to the cool undemonstrative certainty with which Dr. Braasch passes judgment on the victim at the surgeon's hands.

THE CLINICS OF JOHN B. MURPHY, M. D., AT MERCY HOSPITAL, CHICAGO

Volume IV No. II (April, 1915) Octavo 197 Pages, 47 Illustrations. Published Bi-Monthly. W. B. Saunders Company. Price Per Year Paper \$8.00. Cloth \$12.00.

The first fifty pages of this number of clinical lectures is devoted to a discussion of osteomyelitis, always a subject of interest. We notice that at nearly every annual meeting of our State Society a paper is read on osteomyelitis, suggested probably by some unfortunate case that was badly treated. Unfortunately, the derelict surgeon was not present and derived no benefit from the discussion. It is to be hoped that the Murphy Clinic has reached his door and the first three subjects of the April, 1915 number have been read and pondered on.

This number contains a very able lecture on carcinoma of the breast by Professor Wm. L. Rodman of Philadelphia. We were much interested in Dr. Rodman's discussion on cystadenomata of the breast, which ought to clear up some views in relation to the clinical diagnosis and the difficulty of a correct

differentiation between a benign and a malignant condition and the course of procedure to be pursued.

There is an important discussion on hypertrophy of the prostate which should be carefully read. There is so much badly planned surgery on this structure and it requires so much trained judgment to do the right thing in an individual case that an exposition by a master should be constantly reflected upon. The last forty pages are ably filled by a talk by Dr. C. L. Mix, on Spontaneous Massive Coagulation of Cerebrospinal Fluid with Xanthochromia, a subject not generally well known.

DISEASES OF THE DIGESTIVE ORGANS

With Special Reference to Their Diagnosis and Treatment. By Charles D. Aaron, Sc. D., M. D., Professor of Gastro-Enterology in the Detroit College of Medicine and Surgery; Consulting Gastro-Enterologist to Harper Hospital. Octavo, 790 Pages. Illustrated With 154 Engravings, 48 Roentgenograms and 8 Colored Plates. Cloth \$6.00 Net. Lea & Febiger, Publishers.

So much has been written on diseases of the stomach and the other digestive organs that one seeks rather critically for a reason why a book so voluminous as the one offered to the profession by Dr. Aaron, should be written. In the somewhat extended preface we read, "The author has attempted to put before the practitioner in an orderly, consecutive manner, the diagnosis and treatment of digestive diseases and to make available all the resources of this branch of medicine." Again, "The author has striven to eliminate abstract theories and to present to the practitioner only the practical, the trustworthy, and the helpful. The book is intended not only as an aid to the specialist in diseases of the digestive organs, but also as a ready reference work for the busy general practitioner and surgeon." After a careful examination of the book, we are persuaded that the author has fulfilled his promise to an unusual degree. In the first place, and to a measure not often recognized by writers of reference books, the author has furnished us with an admirable and exceedingly helpful **Table of Contents**, which renders it possible for one to find quickly what he wants.

The first three chapters, which includes the physiology of digestion and the examination of stomach and intestinal contents, promises well. The statements are clear and concise and brings to the mind of the reader the physiological facts essential to a study of diseases of the digestive tract.

Roentgen ray examination of the stomach and intestines receives the usual consideration, and the author, very judiciously, states that Roentgen ray should never be depended on alone, but only in conjunction with all other clinical methods of examination.

Two chapters are given to natural foods and one chapter to artificial foods, which the author states

may be used to tide over emergency periods, but does not believe them to be of great practical value on account of their relatively small food value, cost and disagreeable taste in quantities sufficient to be useful except as a supplement in low states of nutrition.

Stomach lavage, indications and contra-indications, receive reasonable consideration, also treatment by electricity and massage. In the treatment of diseases of the intestines through the rectum, we are particularly pleased to note the author's observation on the absurdity of "high injections" which we so often hear referred to. We would suggest the careful reading of this chapter on a simple method of treatment so little understood by many physicians and hospital nurses. We might add proctolysis. A chapter is devoted to mineral waters, packs and baths.

Only two chapters or about thirty pages are devoted to medications in stomach and intestinal diseases, but this is very judiciously presented and gives the physician a very clear idea of what can be accomplished by medicinal agents. Two chapters are given to diseases of the mouth and esophagus. Under the head of stricture of the esophagus, special emphasis is given to the method of Mixer and Plummer.

Motor neurosis of the stomach is a very important chapter. Particular attention is given to pylorospasm. The difficulty of differentiation between organic obstruction of the pylorus and pylorospasm is pointed out as difficult and demands careful study. Gastralgia is a painful neurosis of the stomach. Much care is needed to differentiate between gallstones, appendicitis, ulcer and syphilis. The gastric neurosis known as **Nervous Dyspepsia**, which needs careful study in certain cases, receives detailed consideration. Secretory neurosis, of which hyperchlorhydria, both acute and chronic, are the most important conditions, receives full consideration. There are many important points brought out, which we would like to note if space permitted and which we recommend to the practitioner as particularly valuable.

Motor insufficiencies are divided into insufficiency of the first and second degree, conditions not infrequently met with and most troublesome to the patient and physician and often extremely embarrassing if not diagnosed. The two chapters devoted to this subject will be very helpful to the practitioner. Gastric Ulcer, Cancer of the Stomach, and arteriosclerosis are treated from the standpoint of the internist, but offers little of value to the discussion of the subject. We confess to some surprise on reading of the use of Condurango in the treatment of cancer of the stomach.

Considerable space is given to gastroenteroptosis. The merit of the author's discussion is in the direction of diagnosis and general management of a troublesome condition which is so little amenable to surgical treatment, notwithstanding the claims of some operators. There are numerous other sub-

jects briefly discussed, many of which belong more to the domain of surgery than of medicine. We must, however, in passing these over, commend the chapter on chronic constipation. Here lies one of the short comings of the medical profession. So many doctors content themselves with prescribing a box of laxative pills compounded after some favorite formula which serve for the time but do not cure. It is so much easier than to study out the case and co-operate with the patient in working out a cure.

Under the head of ileus, particular attention is given to a condition designated as paralytic and spastic ileus. If a diagnosis of spastic ileus could be made, medical treatment would serve better than surgical. According to the author "the administration of atropine has a stimulating effect upon the muscular elements of the intestine and thereby serves to liberate spastic ileus and spastic conditions of the intestine due to mechanical obstruction." Ileus is so serious and dangerous a condition and an exact diagnosis so difficult and uncertain as to its cause, that not much time should be lost in seeking surgical aid. This book is of high merit and should become a part of every practitioner's library.

INFECTION, IMMUNITY AND SPECIFIC THERAPY

By John A. Kolmer, M. D., Dr. P. H., Instructor of Experimental Pathology, University of Pennsylvania; Professor of Pathology and Bacteriology, Philadelphia Polyclinic, and Pathologist to the Department of Dermatologic Research; Pathologist to the Philadelphia Hospital for Contagious Diseases. With 899 Pages and 143 Original Illustrations. W. B. Saunders Company, Philadelphia, Publishers.

Doctor Kolmer's book on Infection, Immunity and Specific Therapy fills in an admirable way a twofold want. The rapid advances which have been made in serology have rendered it highly desirable for all physicians to have access to a laboratory. This has increased the demand of laboratory work many fold so that a large number of workers are now making a living doing laboratory work. To such persons Kolmer's book will be of much value because it gives a complete and clearcut technic of the various tests and reactions in serological and immunological work.

In the second place, the book gives the present status of our knowledge of the various phases of immunity and serum therapy, and in this way becomes a highly desirable book for the intelligent practitioner of medicine.

A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN

By John Ruhrah, M. D., Baltimore. W. B. Saunders Company.

This book, prepared for the use of the medical

student to supplement the necessarily larger textbook, that he may more readily grasp the essentials of pediatrics, gives to him a convenient handbook for clinical reference. It also must be of great value to the graduate physician, for similar reasons; in fact the work must be of far more use in everyday practice to a busy man, than to the student class for which it was originally prepared. Beginning with the care of the new-born, the book sets forth the anatomical and physiological peculiarities of the infant and child, gives valuable hints as to examination of the sick child, a delicate and often difficult task. The diseases of the new-born are described, following which there is a very comprehensive, up-to-date and critical chapter on "Infant Feeding." Diseases of different organs and systems are dealt with in an orderly and concise manner; then a much needed chapter on "Therapeutics for Infants and Children," concluding with short articles on Medical Inspection of School Children, Measuring of Development of Intelligence in Children, and advice on use of pediatric literature.

The press work is up to the usual high standard of the Saunders Company, which has set the pace for good work in medical printing.

The Eye, Ear, Nose and Throat. Vol. III of the 1915 Series of the Practical Medicine Series. Edited by Drs. Casey A. Wood, A. H. Andrews and W. L. Ballenger. Published for \$1.50 by the Year Book Publishers. 327 S. La Salle St., Chicago.

This volume reviews and condenses the literature of the above subjects for the year 1914. Here is presented in concise form the essentials, and a general view of the advances of the past year is easily and readily obtained.

OUTLINES OF INTERNAL MEDICINE. FOR THE USE OF NURSES

By Clifford Bailey Farr, A. M., M. D., Instructor in Medicine, University of Pennsylvania; Assistant Visiting Physician, Philadelphia General Hospital; Pathologist to the Presbyterian Hospital. 12 Mo., 408 Pages, Illustrated With 71 Engravings and 5 Plates. Cloth, \$2.00 Net; Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author here presents for the training school a systematic course in Internal Medicine. Divisions of the text are made into Diseases of the Nervous System, of the Blood, and Circulatory System, Air Passages, Digestive Tract, Metabolism, Urinary Tract, Bones and Joints, and those diseases due to heat and poisons. Part X is devoted to Infections and Parasitic Diseases.

Sufficient attention is given to symptoms and treatment to develop efficient nursing. The book is comprehensive, well illustrated and well arranged, and will serve a useful purpose.

GENERAL SURGERY

Volume II. 1915 Series of Practical Medicine. By Dr. John B. Murphy, of Chicago. The Year Book Publishers, 327 S. La Salle Street. Price \$2.00.

An exceedingly well prepared resume of surgical literature of the year 1914.

Dr. Murphy has drawn freely from his own contributions as well as from other able surgeons. The opening chapters—the literature on anesthesia—is intensely practical and should be read by everyone. The book is fully illustrated. The numerous half-tone plates are valuable.

During February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

H. K. Mulford Co.:

Cholera Serobacterin.

Meningo Serobacterin.

Typo Serobacterin, Mixed.

NEW AND NON-OFFICIAL REMEDIES.

Since publication of New and Non-official Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Alcresta Ipecac Tablets.—Tablets containing an adsorption product of ipecac alkaloids and Fullers' earth, each tablet representing 10 grs. of ipecac. The ipecac adsorption product is said to pass the stomach unchanged but to be decomposed in the intestine with liberation of the ipecac alkaloids and thus to exert the amebacidal action of ipecac in the body. Eli Lilly and Co., Indianapolis, Ind. (Jour. A. M. A., Feb. 13, 1915, p. 591).

Typhoid Combined Vaccine (Prophylactic).—Marketed in vials and syringes, each package containing three doses. Schieffelin and Co., New York (Jour. A. M. A., Feb. 20, 1915, p. 665).

Cantharidin, Merck.—A non-proprietary preparation of cantharidin. Merck and Co., New York (Jour. A. M. A., Feb. 20, 1915, p. 665).

PROPAGANDA FOR REFORM

Celerina, Aletris Cordial and Kennedy's Pinus Canadensis, Light and Dark.—As glaring instances of nostrums exploited to physicians on unscientific claims and false representations, the Council on Pharmacy and Chemistry has prepared reports on the products of the Rio Chemical Co., namely, Celerina, Aletris Cordial, Kennedy's Pinus Canadensis, Light or Abican and Kennedy's Pinus Canadensis, Dark or Darpin.

In addition to 42 per cent of alcohol Celerina is stated to contain kola, viburnum, celery, cypripedium, xanthoxylum and aromatics. There is no ingredient in Celerina, except the alcohol, that has any recognizable activity and the alcohol content is nearly as great as that of whiskey. The sooner it is realized that this preparation is essentially nothing but alcohol and bitters exploited under a fancy name, the better for the science of medicine and the public health.

In addition to 28 per cent of alcohol, Aletris Cordial is stated to contain aletris, helonias and scrophularia. These drugs have been discarded as valueless by modern scientific medicine. In Aletris Cordial there is no ingredient capable of producing any other effect than the alcohol stimulation and such psychic effect as may be due to the bitter taste. Yet physicians are asked to believe that "Probably no remedy is so uniformly successful in the prevention of threatened miscarriage as Aletris Cordial, Rio." Alcohol being the essential constituent of Aletris Cordial and the amount being high enough to promote the formation of the alcohol habit, the recommendation to administer it during pregnancy and to young girls is dangerous and an outrage.

Kennedy's Pinus Canadensis, Dark, recently renamed "Darpin" and Kennedy's Pinus Canadensis, Light, recently renamed "Abican" are of interest chiefly because of the unwarranted claims which are made for them. The "dark" preparation appears to be some sort of a tannin-bearing extract. The "light" preparation appears to be a sulphate of zinc-alum injection. It is devoid of tannin and is not an extract of pinus canadensis as claimed. A discussion of the claims made for these preparations is superfluous. It is enough to mention that they are recommended in such diseases as albuminuria, fetid perspiration, gonorrhea, uterine hemorrhage and leucorrhea (Jour. A. M. A., Febr. 13, 1915, p. 606).

Tri-Iodides, Three Chlorides and Maizo-Lithium.—As an illustration of unreliability of claims and unscientific character of proprietary mixtures the Council on Pharmacy and Chemistry published reports on Tri-Iodides, Three Chlorides and Maizo-Lithium, products of the Henry Pharmacal Company (J. F. Ballard, proprietor).

The A. M. A. Chemical Laboratory reported to the Council that contradictory and false claims were made in regard to the composition of Tri-Iodides (Henry). The Council held that Tri-Iodides conflicted with its rules in that the composition was incorrectly stated, because it was advertised indirectly to the public, because unwarranted therapeutic claims were made for it, because the name did not indicate the potent ingredients and because the mixture was unscientific.

Three Chlorides was claimed to contain mercuric chloride, arsenic chloride and ferrous chloride (pro-

tochloride of iron). The A. M. A. Chemical Laboratory reported to the Council that, while the advertising matter laid much stress on the superiority of the protochloride of iron which was stated to be present, the iron was not in the ferrous but in the ferric condition. The Council held Three Chlorides in conflict with its rules in that its composition was not correctly stated, in that it was advertised indirectly to the public for the treatment of disease with the likelihood of doing harm, in that exaggerated and unwarranted therapeutic claims were made for the preparation in that the name of this mixture did not indicate the presence of its potent constituents: iron, mercury and arsenic, and in that the routine administration of mercury and arsenic with iron in fixed combination is irrational.

Maizo-Lithium is one of the many proprietary lithium preparations based on the disproved theory that lithium dissolves uric acid deposits in the body. While claimed to contain "maizenate of lithium" the Association's chemists reported to the Council that they questioned the existence of such a compound, that the manufacturer had failed to submit evidence of its presence in his preparation and that chemical analysis indicated the presence of lithium citrate, instead. The Council held Maizo-Lithium in conflict with its rules in that its composition was not disclosed, in that it was advertised indirectly to the public and in that unwarranted therapeutic claims were made for it (Jour. A. M. A., Feb. 5, 1915, p. 528).

Purity of Ether and Postanesthetic Glycosuria.—Animal experiments by Ross and Hawk show that postanesthetic glycosuria is not due to impurities as has been claimed, but is brought about by a carbohydrate free diet prior to the anesthesia. Those who claim that the U. S. P. tests for the purity of ether are insufficient, should present better evidence than they have so far done (Jour. A. M. A., Feb. 20, 1915, p. 668).

Cod Liver Oil versus Milk, Butter and Eggs.—Like other fats, cod liver oil is readily digested and utilized in the body. Its disagreeable taste has largely outweighed its availability as a nutrient. Recent experiments have established that the peculiar growth promoting qualities of cod liver oil are likewise possessed by butter and egg yolk fat. There seems to be no reason, therefore, to administer the unpalatable cod liver oil (Jour. A. M. A., Feb. 20, 1915, p. 667).

Cod Liver Oil Cordials.—To determine if the growth promoting principle of cod liver oil is contained in the oilless cod liver oil preparations on the market, feeding experiments have been made with some of these preparations by J. P. Street of the Connecticut Experiment Station. In these experiments it was found that the normal nutrition and growth of rats was not maintained when the fat of a standard ration was replaced by a representative amount of Hagee's Cordial of the Extract of Cod Liver Oil Compound, Vinol, Wampole's Perfected and Tasteless Preparation of an Extract

of Cod Liver and Waterbury's Compound, Plain. When, then, these animals were placed on a ration containing an equivalent amount of cod liver oil, normal nutrition and growth was soon established (Jour. A. M. A., Feb. 20, 1915, p. 638).

Towns' Epilepsy Treatment.—This is a bromid mixture marketed by the Towns' Remedy Company, Milwaukee, Wis. It was found by the A. M. A. Chemical Laboratory to contain the equivalent of 21.3 grs. of potassium bromid and 0.78 gr. of potassium iodid per dose (one and one-half teaspoonful) (Jour. A. M. A., Feb. 20, 1915, p. 683).

Virol.—The Council on Pharmacy and Chemistry voted to refuse recognition to Virol (sold by the Etna Chemical Co. in the United States) because the claims made for it were unsubstantiated and unwarranted. A referee who analyzed Virol concluded that it was an extract of malt, with fat and a small amount of protein. He held that Virol could not be considered a "complete food" as claimed, nor an ideal food for infants (Jour. A. M. A., Feb. 20, 1915, p. 683).

Salesthyll and Sal-Hyl.—Salesthyll, a liquid marketed in capsules, is stated to be the menthyl ester of methyl salicylate. Sal-Hyl is stated to be an ointment of Salesthyll, but the exact composition is not disclosed. Salesthyll was submitted to the Council on Pharmacy and Chemistry with the claim that it had the properties of salicylates but to be more efficient. The evidence to substantiate the therapeutic claims was found to be inconclusive and untrustworthy. Being similar to "sal-ethyl," described in N. N. R., the name Salesthyll was held objectionable. The Council refused recognition to these preparations (Jour. A. M. A., Feb. 20, 1915, p. 684).

Analutos.—Analutos is a name applied to calcium acetyl-salicylate. The Council on Pharmacy and Chemistry refused recognition to Analutos because it was held not to have any advantages over acetyl-salicylic acid. In view of this, it was held that medicine should not be burdened with this non-descriptive name (Jour. A. M. A., Feb. 20, 1915, p. 684).

Budwell's Emulsion.—Budwell's Emulsion No. 1 is stated to contain cod liver oil, "Iodide of Arsenic," "Iodide of Calcium" and "Iodide of Manganese." Budwell's Emulsion No. 2 is claimed to contain the ingredients of the first and also creosote carbonate and guaiacol. The Council on Pharmacy and Chemistry refused recognition to these preparations because the exploitation made likely their use as "consumption cures" and because they are irrational shot-gun mixtures (Jour. A. M. A., Feb. 20, 1915, p. 684).

Citarin.—Citarin was admitted to New and Non-official Remedies in 1906. The Council on Pharmacy and Chemistry held that experience had failed to demonstrate the value of Citarin as a uric acid solvent and hence directed the omission of it from New and Non-official Remedies (Jour. A. M. A., Feb. 20, 1915, p. 685).

COMING MEETINGS

The Medical Society of the Missouri Valley at Des Moines, September 23-24, 1915

The twenty-eighth annual meeting of this association will be held in Des Moines, under the auspices of the Polk County Medical Society, Thursday and Friday, September 23 and 24, 1915. A cordial invitation is extended to the profession of nearby states and counties.

Invitations have been issued as usual to the president of the state associations, within our province, and a number of acceptances have been received.

A scientific program is in the course of preparation that will interest every one in the practice of medicine whether internist, surgeon or specialist.

The oration in surgery will be given by Dr. John B. Murphy, of Chicago, on the evening of the first day, and on the second day Dr. Geo. W. Crile, of Cleveland, will give a paper on Cancer of the Pylorus.

The arrangements are in the hands of a capable committee composed of Drs. Robert A. Weston, Chas. Ryan, Thomas Duhigg, Chas. F. Howland, Arthur Steindler, and a number of social events are on the tapis.

Members desiring to read papers should send their titles to the Secretary at once, as the program will be limited to twenty-five. Medical subjects especially solicited. Program will close August 15th.

If you are not a member of this progressive society, send in your application now and attend the next session. You will enjoy meeting the fellows in a society where everybody works and good fellowship is the watchword.

The program will be issued September 1st. If you fail to receive a copy drop a line to

CHARLES WOOD FASSETT, M. D.,

Secretary,

Kansas City, Mo.

GRANVILLE N. RYAN, M. D.,

President.

Des Moines, Iowa.

SOCIETY PROCEEDINGS

There has been much interest manifested at the meetings of the Appanose County Medical Society in the discussion of clinical cases and autopsy findings from the Massachusetts General Hospital, and the following were considered at their June meeting:

Clinical Case—Discussion:

Case Number 7

An unmarried Swedish woman of twenty-six entered April 11th, for relief of pain in both sides of the chest.

F. H. Excellent. P. H. Negative except for tonsillitis three years ago.

HABITS, good. Weight 140 last December, (best); now about 100.

P. I. Feb. 7 took "cold in the chest" and had bad pain in the shoulder and left side of the neck for a

week; left elbow swollen; slight cough. Sputum examined and found negative. She became hoarse at the beginning, and has remained so. Expectoration ceased several weeks ago. Dyspnea came on gradually, but now she is much troubled in going up one flight of stairs. She has done no work since January 18th. Her physician writes: April 7 "I aspirated twelve ounces of yellowish thin fluid from the left chest. At first visit, April 6th, her T. was 99.6 at 3 P. M. Since then it has been slightly subnormal. I think the fluid has increased in the left chest since aspiration. Yesterday she complained of some pain low down in the right axillary space, and I heard a few friction sounds there."

P. E. Poorly nourished. Dyspneic. Skin and mucosa pale. Bean-sized glands in a column over the left clavicle; fewer over the right. Glands enlarged, but not tender, in the axilla. HEART not enlarged. Sounds regular, fair quality. Systolic murmur heard faintly at the apex. P2 is greater than A2 and reduplicated. PULSE, large volume and tension rapid. LUNGS, on the left side there is dullness absent respiration and fremitus extending from the second rib to the base of the lung anterior. In the back there is flatness absent respiration and fremitus. Friction sounds heard in axilla. ABDOMEN, EXTREMITIES, and REFLEXES negative, PUPILS: Right is much larger than left, both regular and react normally. T. ranges from 97 A. M. to 99 P. M. P. ranges from 90 to 140. R. 40-25. Systolic B. P. 70. URINE: Normal amount. Albumin slightest possible trace to very slight trace. Sp. gr. 1038. Occasional leucocytes and red blood corpuscles. A few hyaline and granular casts at the second of two examination. BLOOD Hgb. 80 per cent. Leucocytes 16,400, rising steadily to 28,000 April 18th. Polynuclear 81 per cent. REDS normal. WASSERMANN negative. CHEST TAP April 12th, ounces two of bloody, straw-colored fluid not under pressure. Sp. gr. 1016. Culture—no growth. Polynuclears 62½ per cent, small mononuclear 36 per cent, large mononuclears 2 per cent. SPUTUM: No pneumococci or tubercular bacilli. Many organisms—streptococci and Friedlander's bacilli. Report of throat consultant: hoarseness due to complete paralysis of left vocal cord. The patient was given magnesium sulphate ounces one-half in A. M. April 11th, and morphia gr. ⅓ subcutaneously every day. After the tapping there was an area of tympany at the left base. The patient was very dyspneic by April 15th, and had a muddy, slightly cyanotic color, and a pulse of very poor quality. Digitalis leaves gr. 1 t.i.d. after meals was given and magnesium sulphate every morning. There was no change until the afternoon of April 18th, when the patient grew quite cyanotic but soon cleared up. Immediately after a visit from a friend whom she was very glad to see she again grew muddy, whitish blue, and died.

Case Number 8

A man of thirty-six came November 27th for relief of hematemesis.

F. H. Mother died of "Bright's disease." No tuberculosis, cancer or insanity.

P. H. Quinsy, sore throat twice; the last time in bed for a week.

HABITS. Seven or eight thousand dollar sprees during his life, lasting a week to two months; the last two years ago. Has been in prison since. Did not drink between sprees. Three cigars and five cigarettes a day. Denies venereal.

P. I. August 6th had a sudden attack of severe pain in the epigastrium at 2:30 P. M. lasting twenty minutes and relieved by peppermint. Has had almost continued epigastric distress ever since. Has almost always vomited after any food, several times a dark brownish material (blood). Cut down his diet to milk and eggs, and finally starved for a week. Bismuth and charcoal gave no relief. SEPTEMBER 25, four hours after a glass of milk, he vomited, ounces twenty-six of dark brownish coffee-ground material. He became unconscious and was taken to the hospital. The stool was black as tar for a week. On a diet of peptonized milk of magnesia he continued to vomit, had a second hemorrhage October 14, with a large amount of mucus and two quarts (?) of blood. Beginning November 20th he vomited dark brownish material every day for four days. His pain had been localized in the epigastrium, was sharp at times, but never radiated, and had not been severe enough to double him up since the first attack, and did not keep him awake until the last three weeks. It was less severe directly after eating, but was never absent except when he was under morphia—vomiting relieved it. He had tried soda; had always had his meals regularly, eaten slowly and chewed well; was never jaundiced, bowels regular with catharsis. Best weight 166 fifteen months ago. Present weight 136.

P. E. Well nourished. Head and throat not remarkable. HEART, LUNGS and ABDOMEN negative. GENITALS: Foreskin swollen and edematous. (Burn?) EXTREMITIES: Ankylosis of left ankle. PUPILS irregular, otherwise negative. KNEE-JERKS normal. T. 97-99. P. normal until December 2nd, afterwards 80 to 110. R. normal. URINE normal. Blood: Hgb. 80 per cent. Leucocytes 11,900. Polynuclears 69 per cent. REDS normal. WASSERMANN negative. STOOLS: guiac positive at three examinations, negative at one. BISMUTH MEAL: Slight delay at the cardia, with irregular filling. Good peristalsis over the anterior end of the stomach. Good cap and sphincter. No stasis. Colon negative. APPENDIX seen. STOMACH wash: contents withdrawn causing epigastric pain. No further investigation attempted. FASTING contents: Amount 50 c.c. of brown material. Free HCL. present. Guiac positive. Little sediment; showed moderate number of red blood corpuscles; no food residue. TEST MEAL: 75 c.c. of brownish material, $\frac{1}{2}$ food. FREE HCL. 145. Total acidity. 255. Guiac positive. GLUZINSKI TEST: L. 120 c.c. Free HCL.

O. Total acid 0.7 c.c. II. 40 c.c. Free HCL. 4.6 c.c. Total acid 7.4 c.c. III. 60 c.c. Free HCL. 3.2 c.c. Total acid 6.4 c.c. The epigastric pain was not relieved by sodium bicarbonate. Operation was done December 10th. The patient grew rapidly worse on arriving at the ward, and died at noon.

Case Number 9

A man of twenty-eight was recommended from the Accident Room December 31st with the diagnosis: post-operative abdominal adhesion? or cholelithiasis.

F. H. Good.

P. H. Well until ten weeks ago, when he was operated on at the Somerville Hospital for acute appendicitis. In the hospital six weeks.

P. I. Five weeks ago, while in Somerville Hospital, he was seized with pain radiating up and down the middle line from the epigastrium, constant, dull in character, and without relation to meals. After a week this pain subsided, and he was well until the afternoon of December 25th, when after a hearty meal he was seized with a similar pain radiating along the right costal margin to the right flank and down to the right ileum. This pain has continued ever since, with some remissions. Slight jaundice for the last three days.

P. E. Poorly nourished. Skin and mucosa pale. Head and throat not otherwise remarkable. HEART and LUNGS normal ABDOMEN distended. Slight tenderness in the epigastrium. Spleen slightly enlarged. No masses felt. Three inch scar in the appendix region and a stab wound in the right flank. GENITALS, RECTAL, EXTREMITIES, PUPILS, and REFLEXES normal. T. 98 to 101. P. 110 to 130. R. 27-40 until operation, afterwards normal. B. P. not recorded. URINE: 12-37 oz. spj. gr. 1020-1030. Albumin slight trace. A few red blood corpuscles and cellular casts in one of six examinations. BLOOD: Hgb. not recorded. Leucocytes 16,400. Reds 2,608,000. Two medical consultants found no active phthisis at entrance. The patient's general condition was poor and grew rapidly worse. He vomited occasionally and his belly became quite distended. An X-ray is mentioned in the history as showing phthisis, but is not otherwise reported. January 8th operation was done. The patient made a good recovery and the wound was clean. January 10th he was weak, and January 13th weaker and losing weight. He had much pain and distension, but the bowels moved with enemata. Although he ate fairly well, he lost ground rapidly. The veins on the abdomen and chest grew more prominent and by the 17th, the wound began to break down a little, by the 20th, it became superficially septic and sometimes oozed serum. The patient lived for the incredibly long time of seventeen days after the operation, dying January 25th.

The Appanoose County Medical Society after six interesting meetings the first half of the year, held a

picnic July 28th at Sharon Bridge, four miles east of Centerville on the Waubonsie trail.

At the meeting of the Davis County Medical Society held in Pulaski, July 27th, the following program was given, after which the doctors with their wives enjoyed dinner at the Pulaski Hotel.

Program:

Address—Dr. E. T. Edgerly, Ottumwa.

The Doctor and the Denist—Dr. L. P. Clow, Pulaski.

Paper—Dr. L. A. Hammer, Ottumwa.

Pituitrin in Obstetrics—Dr. E. E. Parrish, Memphis, Mo.

Clinic—Dr. H. C. Finch, Pulaski.

The Dallas-Guthrie County Medical Society met at Adel, July 5th. Addresses were given by the physicians who are in charge of the Sanitary Survey conducted by the United States Department of Public Health in Dallas County.

Dr. Miller's subject was, "Typhoid Fever and Rural Sanitation," and Dr. Prather's was "Medical Experiences in Central and South America."

The Cass County Medical Society met at the Commercial Club rooms, at Atlantic July 15th with the following program:

Physical Signs in Incipient Tuberculosis—Dr. C. E. Thompson, Atlantic.

Pituitrin and Its Therapeutics—Dr. A. Weaver, Cumberland.

Report of Case of Fracture of Superior and Inferior Maxilla and Resulting Trauma of Soft Tissues—Dr. H. C. Campbell, Anita.

Appendicitis in Children with Report of Cases—Dr. C. W. Lyon, Marne.

Paper—Dr. R. L. Barnett, Cumberland.

The mid-summer meeting of the Hancock-Winnemago County Medical Society was held at Forest City July 29th. The weather conditions prevented the picnic being held at Sunnyside Farm as announced and instead the dinner was served on the porch of the home of the Secretary, Dr. H. F. Thompson where a large number of physicians and their families partook of a bountiful repast.

The program in the afternoon was given at the home of Mr. Jasper Thompson. Dr. W. A. Dennis, of St. Paul, gave a very instructive paper on Symptoms of Gall-bladder disease, illustrated with a number of specimens of gall-bladders and gall-stones removed on account of diseased conditions. Dr. E. A. Graham, of Chicago, gave an interesting talk on some phases of Bone Pathology, as Applied to Clinical Surgery. He had a number of pathological specimens showing the effect of the different forms of suppuration of bone. He called attention to the fact that lesions of this sort are, in a large per cent of cases, due to either tuberculosis, pyogenic infection or syphilis, and gave

the differential diagnosis in each form. He exhibited a number of X-ray plates of cases that had come under his observation. Dr. W. B. Small, President of the Iowa State Medical Society then gave a talk on Toxils and how best to remove them, and when. His views are abreast of the advanced thought of the day, and were well received by those present as evidenced by the discussion that followed. Dr. F. G. Murphy, of Mason City, in the course of his remarks, while discussing this talk, referred to the Chicago Tribune as stealing his thunder, as after discussing the symptoms of Tonsillar Affections, their immediate and remote effects upon the system at large, he was informed by the patient with whom he was laboring that he knew all that as Dr. Evans of the Chicago Tribune had given him that information. After further discussion of Dr. Small's paper and several informal talks by the physicians present, the meeting adjourned.

The Jefferson and Washington County Medical Societies enjoyed a picnic at Brighton, July 15th. The gathering, including the families of members present, numbered seventy-five. The scientific program consisted of addresses given by Prof. James Duncan, of Chicago; Dr. J. S. Gaumer, of Fairfield; Dr. E. H. Grove, of Fairfield, and Dr. S. K. Davis, of Libertyville.

The physicians of Newton have organized under the name of the Newton Doctors Club. The officers elected at their first meeting July 13th are: J. C. Hill, president; H. V. Byers, vice-president; W. C. Gordon, secretary and treasurer. At this meeting Dr. Keables read a paper on Pellagra and Dr. Smith one on Appendicitis.

The Marshall County Medical Society held a meeting at the Commercial Club at Marshalltown, July 21st. Thirty-two doctors sat down to a banquet, after which two very instructive papers were read, one by Dr. Clarence Van Epps, from the State University, on "The Symptoms and Treatment of Gastric Ulcer," the other by Dr. Nelson M. Percy, of Chicago, on "A Simplified Method of Blood Transfusion, with Report of Cases of Pernicious Anaemia Treated by Combined Massive Blood Transfusion and Splenectomy."

These papers were thoroughly discussed, and the meeting proved very profitable to all present.

The O'Brien County Medical Society held their quarterly meeting at Primghar, July 15th. There were present Drs. Hand, Conaway; Phelps and Sherbon, of Hartley; Cram and Brackney, of Sheldon; Oldag, of Paullina; Farlow, of Sutherland, and H. L. Avery, of Primghar.

At the July meeting of the Illinois Central District Medical Association held at Davenport, July 8th C. S. Young, of Geneseo, Illinois, was elected president and D. S. Fairchild, of Clinton, vice-president;

L. W. Littig, of Davenport, secretary; F. H. First, Rock Island, treasurer, and W. D. Chapman, Silvis, Ill., reporter.

The Iowa Union Medical Society held its semi-annual meeting at the university laboratories, Iowa City, July 13th with the following program:

Clinical Aspects of Tabes Dorsalis—Dr. J. R. Rohner, Iowa City.

Infant Feeding—Dr. A. H. Beifeld, Iowa City.

Vaccine Therapy in Children—Dr. Fred G. Murray, Cedar Rapids.

Arthroplasty—Dr. Arthur Steindler, Des Moines.

The Treatment of Retention of the Urine—Dr. Jennings Crawford, Cedar Rapids.

Officers elected for the succeeding year are: President, Dr. W. G. Carhart, Marion; vice-president, Dr. Jennings Crawford, Cedar Rapids; secretary, Dr. I. N. Crew, Marengo; treasurer, Dr. C. P. Carpenter, Cedar Rapids; censors, Dr. J. B. Kessler, Iowa City; G. R. Skinner, Cedar Rapids, and L. W. Harding, Iowa City.

The Austin Flint-Cedar Valley Medical Association

The Austin Flint-Cedar Valley Medical Association held its mid-summer meeting at New Hampton, July 13th and 14th. The following scientific program was carried out:

Tuesday, July 13th—Address of Welcome—Hon. Frank B. Griffen, Mayor, New Hampton.

Response—Dr. Paul E. Gardner, New Hampton.

Educational Prophylaxis—Dr. E. L. Rohlf, Waterloo.

The Uses of the Duodenal Tube—Dr. James F. Churchill, Chicago.

Presentation by the Society of a Loving Cup to Dr. A. Babcock, New Hampton.

Wednesday, July 14th—Abortion—Dr. C. E. Dakin, Mason City.

Case Report—Dr. C. W. Sanders, Northwood.

Cervical Ribs—Dr. E. A. Graham, Chicago.

Circumcision of the Tonsil—Dr. Frank G. Murphy, Mason City.

Some Unusual Fractures and Dislocations—Report of a Case with Lantern Demonstrations—Dr. Charles Ryan, Des Moines.

Empyema—Comparative Medical and Surgical Treatment—Dr. T. A. Burke, Britt.

The Clinical Significance of Pulse Pressure—Dr. Walter L. Bierring, Des Moines.

Differential Diagnosis Stomach Lesions—Treatment Duodenal Ulcer—Dr. O. L. Chaffee, Waverly.

Some Thoughts as to Vaginal Drainage—Dr. Frank W. Porterfield, Waterloo.

Summer Feeding of Babies—Dr. O. M. Landon, New Hampton.

On Tuesday evening the attending physicians and their wives were tendered a banquet. Dr. A. Babcock acted as toastmaster on this occasion. The responses were:

"Our Old Boys"—Dr. M. J. Kenefick, Algona.

"Austin Flinters as Good Scouts"—Dr. W. N. Crawford, New Hampton.

"The Ladies"—Dr. W. B. Small, Waterloo.

"How to Learn an Old Dog New Tricks"—Dr. H. H. Clark, McGregor.

"Medicine and Law"—Dr. W. A. Smith, New Hampton.

"Obituaries"—Dr. G. B. Thompson, Withrop.

One of the interesting features at this meeting of the Austin Flint-Cedar Valley Medical Association was the presentation Tuesday afternoon of a beautiful silver loving cup, appropriately engraved, to Dr. A. Babcock, the veteran physician of New Hampton, in commemoration of his faithful services. Dr. Babcock was one of the organizers of the Austin Flint Association and has been a practitioner for fifty years. The next annual meeting of the association will be held at Charles City.

MARRIAGES

Dr. Walter W. Daut, of Muscatine, to Miss Nellie G. Houdek, of Oakland, California, July 14th.

Dr. James J. Murphy, of Cedar Rapids, to Miss Mae Peterson, of Minneapolis, July 1st.

Dr. Lyle G. Baker, of Hartley, to Miss Luella Lucas, of Kawahna, June 29th.

BIRTHS.

Dr. and Mrs. J. R. Winnett, of Eldora, a daughter, July 14th.

Dr. and Mrs. J. C. Hill, of Newton, a son, July 11th.

Dr. and Mrs. John Connell, of Valley Junction, a daughter, July 20th.

Dr. and Mrs. Howard Gray, of Des Moines, a daughter, July 26th.

Dr. and Mrs. G. C. Coakley, of Creston, a daughter, July 7th.

Dr. and Mrs. G. F. Dolmage, of Buffalo Center, a daughter, June 20th.

DEATHS

Aarm B. Terrill, M. D., State University of Iowa College of Medicine, 1881; State Superintendent of Sunday Schools, died suddenly at Berkley, California, July 14th, aged seventy-two.

Susan McGlaughton Snyder, M. D., University of Michigan, Homeopathic College, 1887, died recently at her home in Council Bluffs.

Dr. Alice Bellvadore Sams-Turner, who for many years with her husband practiced medicine at Colfax, died at her home in that place July 10th from carcinoma of the stomach.

Dr. Turner was a graduate of Simpson College and of the College of Physicians and Surgeons Keokuk in 1884. She was an honorary member of



DR. ALICE BELLVADORE SAMS-TURNER

the Jasper County Medical Society and a member of the State Society of Iowa Medical Women.

Dr. Turner was always identified with everything that stood for the betterment of humanity and was a woman of keen intellect and high literary attainments. She was the first woman admitted to membership in the Iowa Health and Protective Association and was the first woman in Iowa to serve in the capacity of health officer which place she occupied during 1886 and 1887. One of the founders of the Colfax Free Public Library was Dr. Alice Turner. She served on the board of trustees for a number of years and had been president of the board for the last twelve years. Interested in all that pertains to society and state, she maintained a regular clipping bureau and especially in connection with the life and history of Colfax and vicinity, and it will be sometime before Colfax can adjust itself to the loss of this estimable woman.

Dr. Alice B. S. Turner was born near Mingo, March 18, 1859, and was married in 1878 to Dr. L. C. S. Turner who passed away May 18, 1915. Two children survive—Mrs. J. W. Preston, of Sault Ste Marie, Michigan and Carroll J. Turner, of Iowa City.

CHANGES OF LOCATION

Dr. Roy R. Miller, of North English, has located at Keota.

Dr. G. W. Younkin, of Eureka, Kansas, has recently located at Weldon.

Dr. B. F. MacNeil, of Austin, Minn., has located at Charles City.

Dr. H. E. Harlow, of Iowa City, has purchased the equipment of the late Dr. W. F. Hammitt, of Union, and will practice his profession at Union.

Dr. Herbert Porterfield, Indianola, has entered into partnership with Dr. H. S. Rogers, of Red Oak.

Dr. W. B. McCauley, of Chicago, has located at Williamsburg, succeeding to the practice of the late Dr. O'Connor.

MEDICAL NEWS

Dr. W. A. Jones, of Cantrill, has been seriously ill. Dr. John G. Walsh, of Panama, is seriously ill in a hospital at Omaha.

Dr. P. E. Stuart, of Nashua, recently underwent an operation for appendicitis at the Waverly Hospital.

Dr. W. R. Bates, of Fort Dodge, has gone to Chicago for a post-graduate course in eye, ear, nose and throat diseases.

Dr. Wm. E. Patterson, of Greene, has gone to New York City to spend a year in the Manhattan eye, ear, nose and throat school.

Dr. John P. Redmond, of Dysart, has returned from Chicago, where he has been taking special work in diseases of the eye, ear, nose and throat.

Dr. D. Powell Johnson, who has been connected with one of the large hospitals in Vienna, Austria, for the past thirteen years, is visiting his mother at Muscatine.

Dr. Arnold R. Moon, who has spent the past three years in Vienna and recently some time in the hospital at Graz, Austria, has returned to his home at Williamsburg.

Dr. Nelson Percy, of Chicago, the associate of Dr. Ochsner, addressed the doctors of Jefferson County at Fairfield July 28 on his new treatment for pernicious and other anemias.

The state board of control recently awarded a contract to Young & Woodward, of Creston, for \$13,338 for the erection of a one-story brick fire-proof laundry building, 58 feet by 110 feet, at the Clarinda State Hospital, Clarinda, Iowa.

Dr. E. M. Sheehan, of Independence, attended the school of instruction for the National Guard Hospital Corps men held at Sparta, Wisconsin, the middle of July. In this camp were members of the medical corps of the National Guards of several states.

A very important innovation in the administration of the state institutions instituted by the board of control is the appointment of a woman inspector for all state institutions. To look after this work the board has appointed Mrs. H. T. Granger, of Des Moines.

Dr. Arthur Steindler, of Des Moines, has been elected professor of Orthopedics at the State University of Iowa College of Medicine and will be affiliated with Dr. A. H. Biefeld, of Chicago, who has recently been elected professor of Pediatrics at the State University.

At the annual meeting of the State Board of Health held July 6th at Des Moines, Dr. Waller L. Bierring, of Des Moines, was elected president, and Dr. John L. Tamsiea, of Missouri Valley, vice president. Dr. G. H. Sumner continues as secretary under an appointment made last year for a term of

six years. No chemist was selected to succeed Prof. Kinney as the chemical and laboratory work will be done at the laboratory of the State University, Iowa City.

The contract for the buildings at the Epileptic Colony, Woodward, has been awarded by the state board of control to Dailey and Marsh, of Minneapolis, for \$253,605.00. The contract provides for a group of thirteen buildings, including the power house, service and laundry buildings and 3,700 feet of tunnel.

One of the laws passed by the last General Assembly provides that the board of control shall appoint an alienist to examine all prisoners sent to Anamosa or Fort Madison where there is any question of their sanity. In compliance with this law, the board of control has appointed Dr. C. F. Applegate, of Mt. Pleasant, to act in this capacity.

Dr. R. Masci, the Italian physician of Des Moines, who is a naturalized citizen, has gone to Italy to render assistance in the army of his native country. The doctor's wife accompanied him to serve in the Red Cross Corps. The doctor has two trained Airedale terriers which he takes with him to be used as letter or medicine carriers for the Italian soldiers.

At a recent meeting of the Waterloo Medical Society, preliminary action was taken to establish a pathological laboratory at Waterloo. A committee was appointed to visit laboratories at Chicago and Rochester with authority to purchase the necessary equipment and secure the services of a competent pathologist. The following officers of the society were elected: C. J. Bickley, president; E. E. Magee, vice-president; R. E. Russell, secretary and E. F. Stevenson, treasurer.

HOSPITAL NOTES

Ames is to have a hospital in the near future costing \$100,000, erected by Capt. W. M. Greeley in memory of his wife, and to be known as the Mary Greeley Memorial Hospital.

The Ward Memorial Hospital for O'Brien county at Primghar recently received a bronze tablet to be placed on the front of the building with the following inscription:

An Appreciation

Ward's Memorial Hospital, provided by the donors, Geo. W. Ward and Amy C. Ward, his wife at a cost of nine thousand dollars; dedicated a free gift to the people of O'Brien county.

Here may the suffering find relief, the sick healing, the injured recovery, and the afflicted deliverance.

In grateful appreciation of the opportunities for honest gain afforded by nature's rich endowment, and made possible through the united efforts of honest toil and fair dealing, on the part of all good

men, both predecessors and contemporaries, this memorial is dedicated.

Faithfully inscribed,

GEO. W. WARD,
AMY C. WARD.

1914

Friday, July 30, was gladiolus day for the Women's and Children's Hospital in Des Moines. Dr. W. L. Carptenter, of Des Moines, generously donated the flowers for this sale from his famous "Garden of Avon," a gladiolus farm located a few miles from Des Moines, to the committee in charge of securing funds for the erection of this hospital to be located at Third and Forest avenue. The receipts from the sale of the gladioli amounted to over \$200.

CORINNA BORDEN KEEN RESEARCH FELLOWSHIP AT JEFFERSON MEDICAL COLLEGE

Professor W. W. Keen has established the Corinna Borden Keen Research Fellowship in the Jefferson Medical College, the income from which now amounts to \$1,000. The gift provides that the recipient of the Fellowship shall spend at least one year in Europe, America or elsewhere (wherever he can obtain the best facilities for research in the line of work he shall select, after consultation with the faculty) and that he shall publish at least one paper embodying the results of his work as the "Corinna Borden Keen Research Fellow of The Jefferson Medical College." Applications stating the line of investigation which the candidate desires to follow shall be forwarded to Dr. Ross V. Patterson, Sub-Dean, Jefferson Medical College, Philadelphia, Pa.

CANDIDATES FOR THE MEDICAL RESERVE CORPS

The following notice has been issued from the office of the Surgeon General, War Department, at Washington:

1. The Surgeon General is desirous of increasing the strength and importance of the Medical Reserve Corps. In order that this object may be obtained, it is requested that you bring to the attention of such physicians and surgeons in civil practice, and especially young men who are completing their hospital training, the advisability of applying for a commission in the Medical Reserve Corps.

2. In this connection it should be stated that it is preferable that it be made plain to prospective candidates for commission that in case of a national crisis it is expected that any one so commissioned would accept active service upon receipt of proper notice that their services are needed.

ROBT. E. NOBLE,
Major, Medical Corps.

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No. 9

CONCERNING SOME OF THE ETIOLOGIC FACTORS IN UVEAL TRACT DISEASES AND THE GENERAL EXAMINATIONS REQUIRED TO DETERMINE THEIR PRESENCE AND DECIDE UPON THE TREATMENT OF THE LESIONS THEY PRODUCE*

G. E. DE SCHWEINITZ, M. D., LL. D., (University of Pennsylvania, Philadelphia)

Mr. President and Gentlemen of the Iowa State Medical Society:—Permit me first to express my high appreciation of the honor that is mine in that I have the privilege of addressing you on this occasion. Always it is difficult for one whose work follows lines drawn through the fields of special medical practice to find a topic which may be of interest to those who occupy the broader plains of general medicine and surgery; and yet there is no reason why we should not meet on common ground, why we should not correlate our ideas and compare our methods. One of the first assets of all our work is familiarity with general and special etiologic factors. On such knowledge the effect of therapeutic measures is founded. Even at this day, widespread as is the knowledge concerning the special branch of our profession which I represent, there is a tendency to regard the eye as something apart from the general economy, in spite of the fact that its connections with the rest of the body are closely woven, and only by recognizing this interdependence can the various manifestations of the phenomena of disease be correctly interpreted. Therefore a discussion of the etiologic factors pertaining to one set of diseases to which one part of this small but important organ is subject, should not be without value in determining their relationship to other portions of the human economy.

For the sake of introducing my subject, I shall for a moment refer to the causation of certain diseases of the uveal tract, that is to say, of that tract which is composed of the iris, of the

ciliary body, and of the middle or nutritive coat of the eye, ordinarily known as the choroid.

Usually we speak of inflammation of the iris as iritis, and of the ciliary body as cyclitis, and of the choroid as choroiditis; in most instances, however, the inflammation or the lesion is not limited to any one of these three portions of this tract. Their anatomical and functional relationship is so close that when one is affected, sooner or later the other two join in the disease, and therefore for the sake of convenience we speak not alone of iritis, or cyclitis, or choroiditis, but of uveitis, meaning thereby inflammation which may be concerned with the entire tract, but more often is especially localized in the iridociliary region. In place of the word uveitis, iridocyclitis is often employed to describe a disease of the iris and of the ciliary body, sometimes associated with a participation of the choroid in the pathologic disturbance, and sometimes free from such association. Therefore in this paper the term uveitis is synonymous with the older term iridocyclitis, and means an inflammation chiefly confined to the iris and the ciliary body, and brought into existence by widely different factors.

In so far as our present knowledge extends, it is probable that almost every case of inflammation of this tract, that is, of uveitis or of iridocyclitis, is of septic or toxic origin. To exogenous sepsis I shall not refer. The endogenous infections and toxemias of the uvea are the result of certain infectious diseases, of certain internal areas of suppuration, and of certain disturbances of metabolism. I shall endeavor to point out how the determination of the etiologic factors related to them also aids our interpretation of affections of other organs with analogous pathologic lesions. In summary these factors are: Certain disorders of nutrition, for example, gout, rheumatism and diabetes; certain specific infectious diseases (influenza, rheumatic fever, gonorrhœa, tuberculosis, syphilis, specific fevers, etc.); certain diseases of the blood, for instance, anaemia; certain renal disorders and anomalies of the urinary secretion, for example, nephritis, lithuria,

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oxaluria; certain autointoxications; certain local diseases and infections, for example, in the pelvic organs, the urethra, the prostate, the seminal vesicles, the intestines, the rhino-pharynx, the tonsils, the teeth (pyorrhea alveolaris, tooth-root abscesses), the accessory sinuses, the pharyngeal ring, the skin (furuncles), etc.

Exceptions to the directly septic origin of certain types of iridocyclitis are gout and diabetes. Many prominent authorities, apparently adopting Luff's suggestion that the primary cause of gout may be bacterial, maintain, as micro-organisms have not been found in the gouty lesions, that if this disease is to be regarded as a cause of iridocyclitis, the presence of a toxin capable of producing a definite local inflammation in the eye must be acknowledged. These authorities, inasmuch as no proof of this theory is present, are unwilling to make this acknowledgment. Now while proof is lacking that circulative toxins of organisms with power to create inflammation in definite organs exist, proof is equally lacking that they do not exist. Our knowledge, however, as to the effect of circulating non-bacterial poisons is much more exact, and we know, for example, that non-pathogenic inflammations, for example, iridocyclitis, may be called into existence by naphthalin feeding. No one denies that disturbances of various tissues and organs of the body are caused by, or at least associated with, the defective nitrogen metabolism which underlies gout, for example, eczema, pharyngitis, and even pyelitis, and therefore it cannot be unscientific to believe that iridocyclitis, which is frequently present in the subjects of gout, is due to the agency of this disease.

Those who suffer from so-called irregular gout are especially liable to the disease I have named, including iridocyclitis. As we all know, irregular gout includes a number of minor disturbances of one or other tissue of the body, and is the condition which used to be described under the name of lithæmic or uric acid diathesis, an unsatisfactory and unscientific term. These affections, as Bovaird says, are encountered in persons who have typical gout, or who belong to gouty families, and sometimes in people who neither have gout nor belong to gouty families, but who are immoderate in food and drink. With the pathogenesis we are imperfectly acquainted, expect that certain tissues of the body have an affinity for certain substances, for example, the joints for sodium deposited in the form of biurate of sodium. In general this is true of the connective tissues, and therefore is true of the iris and ciliary body. To be sure, no one has ever found in the inflamed iris and ciliary

body, so far as I am aware any deposition of sodium in any chemical combination, and it would be difficult to prove that such deposit takes place, and yet it is not inconceivable that this substance, or some of its combinations, having this affinity for connective tissues, exerts an influence on the tissues of the iris, creating there an inflammation which is non-bacterial, and therefore chemic in nature. This at least may be said, that certain uveal tract disturbances appear to be due to the same defective nitrogenous metabolism which underlies gout, exactly as are the other minor disturbances which have been named, and this is especially indicated by the therapeutic test, that is, by the relief of the condition under the influence of treatment along the lines of gout, to quote a sentence from Bovaird.

I shall not elaborate the argument in relation to diabetes, except to say that its connection with iridocyclitis is probably a similar one. Like gout, it represents a nutritional disorder, during the progress of which certain tissues, for instance the uveal tract, may be involved, in all probability by an inflammation which is non-bacterial in origin.

So much, then, for two diseases which seem to make their point of attack in certain localized tissues, for example, the uvea, without the aid of micro-organisms or their toxins, at least, in so far as our present knowledge extends.

If the question were asked, what is the most frequent cause of iridocyclitis or uveitis, without doubt the answer would be syphilis. Referring to primary iritis, the percentage of patients with syphilis who acquire this type of uveal tract inflammation during the course of syphilis varies from one to six per cent, but taking all cases of iritis or iridocyclitis together, syphilis is the cause in from 30 to 60 per cent of them, and the lesions are due to the influence of the syphilitic virus, that is, to the lodgment and activities of the spirochete pallida, which can be found in the aqueous humor. This relationship of syphilis to iritis and iridocyclitis is so definitely established that it is not worth while to make any extended reference to the matter; the serologic tests, the clinical history, and in some instances the lesions themselves serve to make the diagnosis, and in the treatment, mercury, iodids, and particularly the chemo-therapy of Ehrlich, speedily bring about a cure. No one would undertake the treatment of any case of iridocyclitis without satisfying himself whether the Wassermann test was negative or positive, making the test not only from the blood but from the cerebro-spinal fluid, and if necessary, after a provocative dose of salvarsan or neo-salvarsan, and I shall now dis-

miss this well-established and easily detected etiologic factor from further consideration.

A few years ago, had the question "what constitutional disease or condition next to syphilis is the most frequent cause of iridocyclitis or uveitis" been asked, the answer almost certainly would have been "rheumatism." But in point of fact, it may be seriously questioned whether acute rheumatism, that is, rheumatic fever, articular rheumatism, or whatever name one choose to apply to this specific infection, ever is the cause of a non-purulent inflammation of the iris or ciliary body. To be sure, iritic involvements which follow or accompany acute joint rheumatism, and which depend upon metastases of staphylococci or streptococci, proceeding from purulent processes in these joints may occur, but with this type of disease we are not now concerned. Kruckmann himself, who has developed one type of iritis or iridocyclitis, to which he gives the old name "rheumatism," and which begins with an acute conjunctival hyperemia, or a non-bacterial conjunctivitis, carefully separates this affection from the involvements to which I have just referred, and it would seem that iridocyclitis of the ordinary type is virtually never coincident with acute rheumatism. In other words, in this disease, except in the circumstances already detailed, the toxins apparently do not find in the iris a suitable nidus.

What shall be said, however, in regard to muscular rheumatism, manifesting itself as lumbago, torticollis and pleurodynia, or as myalgia of the muscles of the head, shoulders, back, abdominal walls or extremities, excited frequently by cold and exposure? The cause of this affection is not certainly known, unless it depends upon a toxic material produced by perverted metabolism, which toxic material upon exposure of the part to cold, is precipitated in the involved tissue, or (should the comparatively recent findings of Rosenow be confirmed) unless it depends upon a myositis due to streptococci which in some way are related to those found by Poynton, Payne, Meyer and others, in the lesions of acute rheumatism.

What, too, shall be said in regard to chronic polyarthritis, that constitutional disease which is characterized by chronic inflammation of a number of joints, and which manifests itself in hypertrophic, atrophic and periarticular varieties, including as one of its groups arthritis deformans (rheumatoid arthritis), as well as other joint troubles, which are not infrequently ascribed to chronic rheumatism? Certainly the subjects of these affections frequently beget inflammation of the iris and of the ciliary body, and therefore

it came about that the term "rheumatic iritis, or iridocyclitis" arose, and even to the present day this descriptive title is set down in almost every paper written on the subject and in every textbook printed on the matter. And yet, as Sir William Osler has said, it is uncommon to obtain in the subjects of polyarthritis, or even muscular rheumatism, a history of acute articular rheumatism. These various types of polyarthritis depend upon bacterial poisoning, and sometimes upon poisons, or probably upon poisons, of metabolic origin, and the toxin, bacterial or metabolic, or the bacterial element itself, comes in all probability, in general terms, from the digestive system, beginning in the mouth, and including the pharynx, teeth, tonsils, intestines, etc., or from the respiratory system, including the nose, accessory sinuses and larynx. The patient acquires, for example, inflammation of the iris, not because he has rheumatism in the strict sense of this term, but because this is one of the manifestations of the toxemia of the infection of which he is the subject, while his muscle, joint and fibrous pains and lesions are other manifestations of the same cause. Hence, just as modern internists have deemed it wise to eliminate the term "rheumatic" as descriptive of the various myalgias to which I have referred, and the various types of polyarthritis which I have described, so also it is wise to eliminate the term "rheumatic" as descriptive of an etiology of inflammation of the iris and of the ciliary body.

In order to label these types of iritis formerly designated "rheumatic," we have, following some suggestions from England, adopted the term "toxemic," or "autotoxemic," and the adoption of this term and the elimination of the old name "rheumatic," which made reference to an unproved etiology, is coincident with what Beaumont calls "the dethronement of iridocyclitis from the position of an independent disease to the secondary one of a complication." This sentence epitomizes what I have been endeavoring to emphasize, to wit, that the patient with uveitis must be studied from the general standpoint in that the iridocyclitis is one of the interpretations of the toxemia of which he is the subject. It is our business to find out what the underlying constitutional difficulty is, which in the eye thus finds one of its many interpretations.

Continuing our discussion of the evolution of iridocyclitis as one of the many expressions of a systemic toxemia, and therefore, to use its modern name, a toxemic or autotoxemic uveitis, reference must be made to the enormous influence of oral sepsis. Quoting Osler, it may be said "there is not one single thing more important to

the public in the whole range of hygiene than the hygiene of the mouth," because, to cite the observations of William Hunter of London, as well as facts of common knowledge, septic oral conditions play an important part in the development of a number of diseases,—adenitis of the neck, gastric and intestinal disturbances, ulcerative endocarditis, pleurisy, osteomyelitis, rheumatic joints, nephritis, pyemia, anemia, skin diseases, and certain affections of the eye, notably iridocyclitis. The sources of the oral sepsis are particularly in evidence in the presence of dental caries, tooth-root abscesses, and especially pyorrhœa alveolaris, and referring especially to the eye, William Lang's examinations of the histories of 10,000 private patients may be quoted. He found 215 case records of eye inflammation caused by sepsis, 139 of them attributed to pyorrhœa alveolaris, while his son, B. T. Lang, traced the cause of 71 out of 176 cases of inflammatory lesions of the eye to buccal sepsis. Many investigations have been made of the bacteriology of the mouth, but this is not the time or the place to discuss them. This much may be said, that although no specific micro-organism upon which pyorrhœa alveolaris definitely depends has been isolated, always staphylococci, streptococci, micrococcus catarrhalis, and other unidentified organisms and spirilla can be found, and in this number the streptococcus is particularly potent.

Recently the researches of Allen J. Smith and M. T. Barrett of the University of Pennsylvania, and later the investigations of William S. Middleton, indicate that parasitic amebas of the mouth hold an important relation to the etiology of pyorrhœa alveolaris, and Smith and Barrett in the pockets of pyorrhœa have almost invariably found some form of endameba, usually the endameba buccalis. Now it has been known for many years that Riggs' disease bears an etiologic relationship to chronic and recurrent arthritic affections, to obscure anemias, and to gastrointestinal disturbances, and the authors before quoted, particularly Dr. Barrett, have observed the disappearance of gastric and intestinal symptoms when the pyorrhœa was treated by the use of emetin, which not only is a amebicide, but which cures, probably for this reason, pyorrhœal lesions. These amebas have also been traced into the tonsil, into the frontal sinus, and into the middle ear, and therefore when we look upon Riggs' disease as a positive causative factor in certain systemic affections, as well as in ocular lesions, we must take into consideration the influence of these endamebas. It is not improbable that the endamebas themselves are more innocent than the

bacteria, but they have this relationship, namely, they feed upon the vegetable micro-organisms, and in these bacterial phagocytic actions, it is probable that they set free from this and from that organism different endotoxins, and it is not improbable that the bacterial toxins thus originated play a very important part, a more important part, in fact, than the amebic toxins themselves, if they exist. The end results of this toxic absorption must necessarily vary, as these authors point out, manifesting themselves, to use their language, sometimes as hemolysis, sometimes as a cellular degeneration, and sometimes as an inflammatory change in a synovial or serous membrane, and just as this disease has a relationship to arthritis, endocarditis and the like, so also it has an important and distinct relationship to iridocyclitis.

But the matter does not stop here, that is to say, our duty is not complete if, searching for the etiological factor in a case of iridocyclitis, or, for that matter, in arthritis, or even endocarditis, we are content with a mere external examination of the gums and interstices between the teeth, even though it is made by an expert dentist. X-ray investigation is necessary to discover a concealed abscess, and if time permitted I could relate case history after case history of patients in whom just such pockets have been found, containing perhaps only a few drops of very fetid pus, often unassociated with any local symptoms, and on removal of the tooth and drainage, instant relief of the eye trouble has taken place. All clinicians in the room can give testimony in this respect as far as various types of arthritis and other affections of the synovial membranes are concerned.

But even if the teeth are by all expert measures found to be innocent, in every patient who is the subject of uveitis, and from whom the usual tests have eliminated the influence of syphilis or tuberculosis, it becomes necessary to make a careful inspection of the tonsils, of the pharyngeal arch, of the nares and of the accessory sinuses.

We all know that the tonsillar tissue of the throat may be the port of entry of various infections, notably tuberculosis, and that in the majority of cases of tuberculous adenitis in the cervical lymphatics, the affection originates in the faucial tonsils, or in the pharyngeal tonsils. We also know that the role played by the tonsils in organismal disease is much wider than this; endocarditis, acute nephritis, even articular rheumatism, rheumatoid arthritis, synovitis, and the like, have all been brought and with perfect accuracy, into direct relationship with tonsillar dis-

case, and even if this port of entry is denied, or a secondary role attributed to it, there remains the rest of the pharynx and the nares, with its lymphatic pharyngeal arch, to be considered.

Septic areas in these regions are closely related to the development of diseases of the uveal tract, which form the subject of my discourse. Over and over again in recent years ophthalmic observers have studied various types of iridocyclitis, which stubbornly refused to yield to treatment until tonsillar disease and frequently accessory sinus disease, notably ethmoiditis, have been brought under control. Moreover, this interesting fact should be emphasized, that many cases of iridocyclitis, the Wassermann test being positive, and therefore probably due to syphilis, do not yield to ordinary mercurial or salvarsan treatment until local infections, for example, in the tonsil, the ethmoid, the naso-pharynx, or the teeth, have been eliminated, and it becomes the duty of all of us who study these diseases, be they in the eye, or the joints, or in the heart valves, to investigate most carefully the relation of septic areas in the regions already named to their development.

These organisms are perfectly capable of producing a non-septic uveitis, although the primary lesion is suppurative, because they decrease in virulence in their contact with blood serum, and they are not contained in emboli or blood clot. Even if the organisms are not found in the anterior chamber, or in the fluid of inflamed joints, it does not prove that they have not been carried there originally, inasmuch as they may have been destroyed by the very virulence of the inflammation which they have caused, and I shall presently point out how even in the absence of the organism itself, the potency of its toxins must be reckoned with. All of this shows how often in the absence of such examination the diseases as I have ventured to describe, using uveitis as a type, were badly treated because perfunctorily managed in a routine manner, with total disregard of the active area which was ever producing a micro-organism or its toxin.

Pursuing this matter further, it may be asked "what other etiologic factors take important place in the development of uveitis as developed according to the manner already described?" Certainly tuberculosis holds a prominent position, and perhaps next to syphilis, the most prominent position. I shall not take up this vexed problem in detail at the present time, and merely wish to emphasize the important role which tuberculosis plays. Fortunately the diagnosis can now be made by various tests as they are performed in the laboratory, and search for this infection by

means of these tests is of the utmost importance, because in my experience if tuberculosis is definitely proven to have a causative relationship to uveal tract inflammation, tuberculin therapy holds an important place in the management of the lesions. For lack of time I shall not further pursue this subject in so far as it relates to the causative influence of tuberculosis and the evident importance of this infection in the study of uveal tract inflammations and similar lesions.

I want, next, to call your attention to the great frequency with which the Neisser organism is responsible for uveitis, exactly as it is responsible for inflammations in joints, heart valves, etc. This responsibility used to be denied, because many of these cases arise when there is no apparent active gonorrhœa, and because the Neisser organism is not always found in the blood. Nevertheless, this interesting fact has been developed in recent examinations, namely, that many forms of iritis which used to be called rheumatic are really gonorrhœal in origin, and that they may be the sequels of such an infection, although there has been a long interval between the acquisition of the gonorrhœa and of the iritis or iridocyclitis, for example, 4, 5, 7, 8, 9, 10, 12 and 15 years respectively; indeed, in some cases the period of time has been as great as twenty years between the attack of gonorrhœa and the inflammation of the iris, or, if you choose, of some joint, and the diagnosis has only been made by careful centrifugation of the urine and demonstration of gonococci from the posterior urethra, or by finding a small granulating area just posterior to a stricture of large caliber, where the Neisser organism has found a favorable nidus.

We know that in various types of endocarditis and in joint troubles the gonococci have actually been found in the inflamed tissues, and quite recently exactly the same discovery has been made in the aqueous humor of the eye by Sidler-Huguenin. But even supposing that the gonococci are not found in the lesions in these circumstances, it does not necessarily mean that they shall not be accused of responsibility in this respect, that is responsibility for iritis, arthritis, and even endocarditis.

I am well aware that there is a discussion, very keen at the present time, between those who believe that to prove that an inflammation of any organ is due to a bacterial infection, the bacterium itself must be found in the affected organ and those who maintain that circulating toxins, bacterial toxins, I mean, can cause such inflammations. But it is impossible to deny

the influence of circulating bacterial toxin, and, as Abbott says, of fundamental importance in this connection is the conception that in the mechanism of intoxication each toxin finds elements in the body, organ or cell, for which it possesses a specific combining affinity, an affinity which is mutually destructive, that is to say, which destroys the elements attacked, and at the same time neutralizes the attacking poison. This phenomenon we know is abundantly illustrated in the finer pathology of diphtheria, tetanus, typhoid fever, and other intoxications and infections. The lesions in these circumstances are without bacteria, and there is nothing to suggest that at any time during the course of their development bacteria were immediately present. Therefore when, and now I refer particularly to gonorrhœal infections, such results as I have described take place, they can be explained only on the assumption that the diseased portion, the eye, for example, represents an organ possessing elements for which the particular toxin in question, in this instance the Neisser toxin, had a specific combining affinity. There is no way out of such a deduction, to quote Dr. A. C. Abbott, for if we are robbed of the hypothesis that toxins of all sorts find in the body cells or parts of cells with which they pair off specifically, our conception of the mechanism of infection and immunity must fall. Therefore it may be maintained that gonorrhœal infection, acquired, it may be, years before, is responsible for many of the types of iritis and iridocyclitis, as well as many joint troubles, which used to be called rheumatic, and that the active agent is not necessarily the gonorrhœal organism itself, but its toxin, and that careful examinations of the posterior urethra will often reveal the nidus from which it is elaborated.

In the study of the evolution of iridocyclitis, with due regard to the well known and frequently present influence of syphilis and tuberculosis, as I have endeavored to point out, if I may be permitted to repeat myself, this disease and similar affections, i. e. myalgias, joint inflammations, and synovial membrane affections, should be looked upon as an interpretation of a systemic fault, and often the exact source of the bacterial element or its toxin must be searched for in the areas already many times named.

I might readily extend the observations to other septic conditions. Iridocyclitis and other similar lesions are not infrequently caused by menstrual derangements, colon infections, acne, prostatic disease, cystitis and affections of the seminal vesicles. We must bear in mind that iridocyclitis, which occurs in anemic girls before

each menstrual epoch, is probably dependent upon uterin discharge, that various types of choroiditis are due to endometritis and are cured by suitable operation, and some types of uveitis seem to have a distinct relationship to leucorrhœa. It is not necessary to go into this matter further. The mechanism, or, rather, the pathogenesis of the affection, in these circumstances has been sufficiently emphasized.

Naturally, in the search for etiologic factors in these circumstances the intestinal toxemias have not escaped attention, and elaborate studies of so-called autointoxication have been made, with the hope of finding by metabolic studies some toxin which may be accused in this respect.

With your permission, I shall digress for a moment, and say a word or two in regard to so-called autointoxication, quoting freely from previous writings on this subject. Doubtless, as one of my colleagues puts it, the scepticism with which many clinicians regard the diagnosis of auto-intoxication is due in large measure to the loose and inconsequential manner in which the term has been employed and in which the diagnosis has been made. Properly defined gastrointestinal autointoxication, for I speak only of this, and not, of course, of the well known histogenetic autointoxications, has reference to the formation of substances under the influence of vital processes of the organism; therefore intoxication by infection, by the resorption of the products of cryptogenetic infection, or by the absorption of alimentary poisons, sausage, meat, fish, etc., is not an autointoxication.

The results of the examination most useful to endeavor to establish a diagnosis of gastrointestinal autointoxication summarized by Goodman are; usually oliguria, and generally a low specific gravity; the presence of urobilin, its absence, however being of no importance; phenol when found by ordinary clinical tests; an increase in the percentage of ammonia output, as this in addition to being a fair index of acidosis, for example, in diabetes mellitus, is also present in disturbed hepatic function and in excessive putrefaction of protein material in the intestines, both of these conditions being prime factors in producing autointoxication; fatty acids when in excess; increase of conjugate sulphates above 200 mgms., excess of conjugate sulphates being the most important indication.

Now we all know that much attention has been centered upon indican when it is in excess in the urine, that is to say, the so-called indicanuria. As Dr. Goodman puts it, it is the storm center of this whole matter, but it should be definitely

understood that the diagnosis of gastrointestinal intoxication cannot be made on the presence of this one substance indican, nor, indeed, upon the presence of any one substance, but only after careful chemic examination of the urine, gastric contents and feces. To be sure, the presence of increased amounts of indican in the urine is generally indicative of intestinal putrefaction, but we may have severe enterogenous intoxication in the complete absence of this compound, and moreover, it is found so frequently in all manner of conditions and after the ingestion of various food stuffs, that its pathognomonic significance is extremely trifling.

But the matter does not stop here. There is serious objection to the use of the word gastrointestinal autointoxication. Should we follow that very distinguished authority, Von Noorden, the term intestinal or enterogenous autointoxication, except as applied to certain conditions which occur in infants, should be completely rejected. Von Noorden, as you know, believes that one may speak intelligently of autointoxication only when poisons are formed by the tissues of the body itself, and as we know practically nothing of the poisons which are formed in the wall of the stomach or of the intestines, he objects to this phraseology, although convinced that the contents of the stomach furnish a rich source of poisons, and that these are materially increased by the decomposing action of bacterial intestinal flora. Why with such decomposition going on more detrimental results are not apparent evidently depends upon the fact that we do not know how detoxication occurs. Alonzo Taylor of the University of Pennsylvania is in entire accord with Von Noorden, stating that we have no evidence that there is any clinic condition of gastrointestinal autointoxication. All gastrointestinal intoxications are bacterial or parasitic, and all the findings which I described in the resume of those conditions upon which a diagnosis of this type of intoxication is to be founded, with the exception of acidosis, are related to abnormal bacterial processes within the alimentary tract. The phenols and indols of the urine to which I have referred are exclusively of bacterial origin in the intestine.

Because there are many varieties of inflammation of the tract of the eye which I have been describing which cannot be attributed to syphilis, tuberculosis, gonorrhœa, or areas of local sepsis in the mouth, tonsils, sinuses, skin, etc., it appeared to certain observers, notably Elschnig, that some of these relapsing varieties might be due to what he called gastrointestinal autointoxication, and because he found in many of these

patients a persistent indicanuria, he assumed that this relationship was established.

There is no doubt that ocular conditions interpreting themselves as iridocyclitis or uveitis occur in patients in whom intestinal putrefaction is going on, and in a few instances microbes have been cultivated from the feces, vaccins have been prepared, and their administration has been followed by cure of the ocular disease. All this, however, simply goes to show that the ocular disorder was caused by a bacterial invasion, or by a bacterial toxin arriving from an intestinal bacterial camp. The intestines furnish, in other words, the necessary microorganism, exactly as a septic mouth, tonsil or sinus might have furnished it.

I have examined a great many patients with iridocyclitis—when every test showed that this was not caused by any of the usual factors—from the strictly metabolic standpoint, the chemic examinations having been made by accomplished physiological chemists, notably Dr. Charles Fife and Dr. Edward Goodman, and as the result of these examinations, which were carried out with the strictest care under hospital supervision, I think I may say this, quoting now from a paper which I read on the subject in London in 1913: There is absolutely no proof that any toxic substance elaborated within the tissues in the course of a so-called gastrointestinal autointoxication has of itself by its toxic properties produced an iridocyclitis, or, indeed, any other local affection in any other portion of the body. While indican in the urine, especially in excessive amounts, is an index of intestinal putrefaction, its absence does not prove that a gastrointestinal intoxication is not present, and we cannot depend upon this substance for information in this respect. All the evidence goes to show that intestinal putrefaction depends upon the activity of bacteria upon the food stuffs in the intestines, and there is reason to believe that these bacteria or their toxic products may be the cause of an inflammation, for example, of the uveal tract, exactly as bacteria from other foci of suppuration have a similar influence. In this respect, therefore, gastrointestinal intoxications have a right to be included among etiologic factors I have discussed, and with this understanding in view bear from the causative and therapeutic standpoints an important relationship to these diseases.

Concluding this essay, with your permission, I pass briefly in review the main points upon which I have attempted to dwell:

1. With few exceptions, uveitis or iridocyclitis is not an isolated ocular disease, and, again with comparatively few exceptions, it de-

pendes for its development upon micro-organisms or their toxins.

2. These uveal tract inflammations are manifestations usually of a systemic infection, and may be compared in their clinic aspects to various connective tissue, muscular and synovial membrane affections, for example, myalgia, arthritis, synovitis and the like, and in their presence a systematic search for local areas of sepsis from which the bacterial element or its toxin arises must be made.

3. The most important regions to which this search must be directed are in the mouth, the teeth, the tonsils, the accessory sinuses and the intestinal tract, but also in the prostate, the urethra, the seminal vesicles and in the pelvic organs.

4. Even in the presence of syphilis and tuberculosis these regions must not be neglected, for the reasons already explained.

5. Acute articular rheumatism itself is rarely, if ever, responsible for iridocyclitis, and the so-called rheumatic forms of iridocyclitis are really manifestations of an autotoxemia, the nature of which is not yet understood. Some of them may be traced to gonorrhoeal infections of long standing, which have for many years remained quiescent.

6. Important and absolutely necessary as are the local measures,—mydriasis, analgesia, stimulation of lymphagogue activity and antiphlogistic measures,—these will fail in their best activities if the source of the local area of sepsis, which gives forth its poison—bacterial, parasitic or metabolic—is neglected.

7. The presence of an iridocyclitis is the signal for a searching general examination, such as I have ventured to describe, exactly as the same technic is indicated if so-called chronic rheumatism, arthritis, and the like, are in evidence.

I am aware that this paper is fragmentary, but my object in reading it is attained if I have made it plain how important it is for an oculist, when he comes in charge of any type of iridocyclitis, to associate with him an internist, a rhinologist, and often a dentist, in the investigation of his patient. The perfunctory prescribing of iodids and various types of eliminative medicine, salicylates, etc., without due regard to the vital etiologic factors concerned is a great mistake.

Moreover, these very investigations indicate so clearly how similar processes are related to many other diseases of the body, some of which I have mentioned, for example, various types of arthritis, endocarditis, synovitis, etc., that it seemed fair to draw a parallel between them. The necessities of the day require that there shall be spe-

cialists, and in point of fact, as we all know, the greatest specialty is internal medicine, but the necessities of the day also require that we shall not forget our general training as doctors, and that even such definitely circumscribed lesions as an inflammation of the uveal tract in a human eye may be the indication for a general examination which will reveal the source of infection, which in the one instance is potent in the eye, and in another instance may be potent in the same individual in an even more vital organ.

I speak in largest measures to general practitioners, and I deprecate most thoroughly the tendency, only too prevalent, to separate sharply the various types of medical work. They blend one into the other, and we shall all be better doctors and secure better results if we work together "in perfect sympathy and uncontenting equity."

EARLY ACQUIRED SPASTIC PARAPLEGIA, ASSOCIATED WITH HYPOTHYROIDISM AND ICHTHYOSIS, WITH REPORT OF CASE*

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Congenital or early acquired spastic paralysis, sometimes spoken of as Little's disease, is essentially a disease of childhood. While much has been written about this disorder, particularly concerning remedial measures for the benefit and relief of the spastic phenomena, no great amount of light has been thrown upon the etiological factor or factors capable of producing the disorder since William Little, an English physician, first called attention to this disease entity. While it is true that a close relationship evidently exists between paralyzes due to cerebral origin and those resulting from pyramidal tract involvement in the spinal cord, yet in the majority of cases it is apparent that the pyramidal tract changes in the cord are subsequent to cell changes in the motor cortex.

It was early pointed out that such factors as premature birth, difficult and protracted labor, especially when considerable delay in the descent of the head is encountered, instrumental head deliveries, intra-uterine changes, etc., all undoubtedly were factors capable of playing an important role regarding the etiology of this disorder. More recently Friedmann, Rolly, Dejerine and others have attributed hereditary syphilis as a causal factor, but Oppenheim contends that when a history indicative of hereditary lues is found, usually the clinical picture of a true Lit-

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tle's disease takes on a new aspect due to pupillary changes or other complications usually resulting from a specific condition. Of no less interest, perhaps, is the fact that blood relationship of the parents has been blamed as a causal factor. Inflammatory processes involving the motor areas, either *in toto* or but partly, as the leg centres, also are undoubtedly capable of producing this symptom-complex, but the rarity of such bilateral lesions, needs, I feel, no special comment.

Briefly, it will be recalled that in the disorder now under consideration, the characteristic symptoms present are those referable to the motor apparatus alone, as indicated by a spastic condition of the lower extremities, and sometimes, though rarely so, the upper extremities are also involved. The adductor thigh groups and the extensor muscles of the feet are the muscles most often involved and as a result of the marked spasticity, adduction of the thighs and pes equinus are the resultants. While in many cases mental disturbances are absent, yet in others there is gross evidence of mental weakness, which may even amount to idiocy. Other evidences of degenerative stigmata are sometimes found as evidenced by anomalies of development, undescended testicles, etc. Speech disturbances, when present, are usually attributed to a rigidity of the muscles governing articulation.

With this presentation, though necessarily brief, of some of the more important etiological factors, as well as of the clinical aspect resulting from an upper motor neuron involvement, I will now invite your attention to a consideration of a case which presents not alone the clinical findings of a simple spastic paraplegic condition, but one complicated also by phenomena due to a lack of thyroid secretion and manifesting further degenerative features as indicated by the presence of a cutaneous disorder. It has not been my opportunity recently to have studied a case which so well illustrates the relationship and dependency of the departments of medicine—one to another—as does the following report, and if in the bringing out of this relationship I can show the necessity of treating, not alone a given condition, but the patient as well, my object will have been attained.

Case Report.—A white lad eight years of age, a native of North Dakota, was first seen by me on June 2, 1914. The parents had brought the boy to the city in the hope of having some orthopedic work done on the lower extremities that would enable the little fellow to walk properly. The boy's inability to handle himself, as far as gait was concerned, had

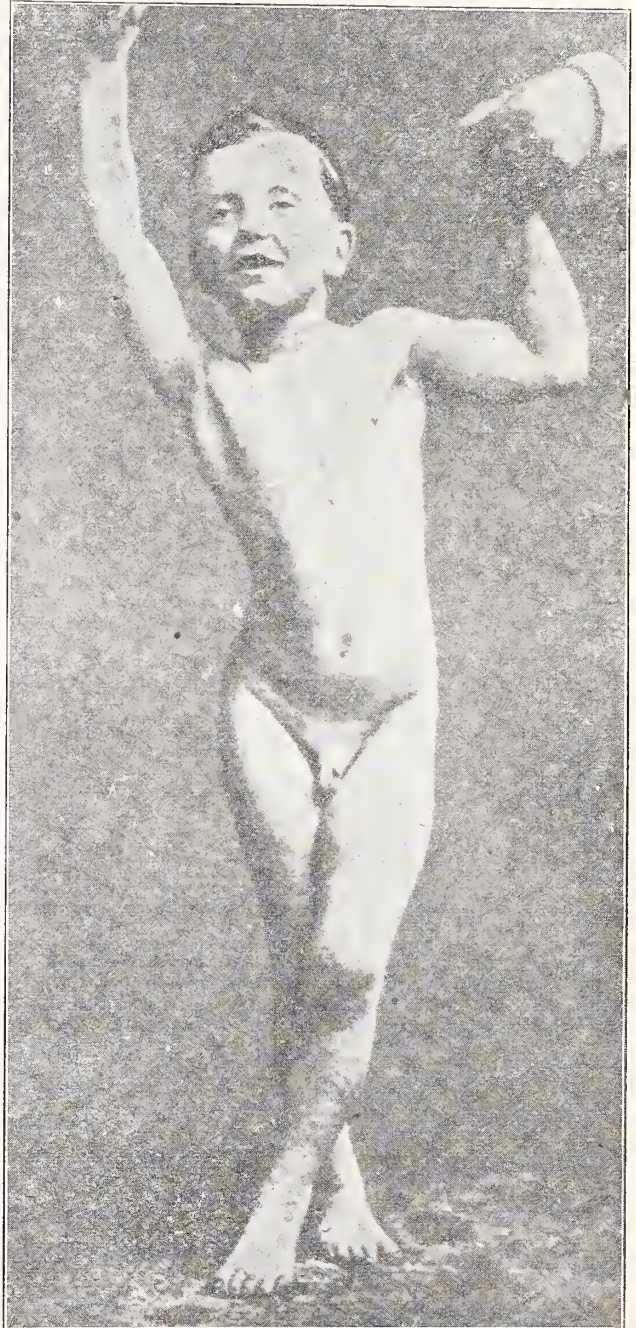


Figure 1.—Spastic Paraplegia, Showing Cross-Legged Progression. (After Dercum, Jefferson Hospital.)

extended over a period of some four years and had been progressive in character.

Family History.—The family history in some ways reveals an interesting point or two. The father, a mature adult and farmer by occupation, is apparently healthy in every respect and denies both a luetic of Neisserian infection. The mother is a strong healthy woman and has had no abortions or miscarriages. A denial of immediate consanguinity is made by the parents, but both the maternal and paternal grandparents were first cousins. A brother, aged six years, shows no abnormality either mentally or physically, but a little sister of some sixteen months has had a roughness and scaliness of



Figure II.—Mode of Walking in Simple Spastic Paralysis of Childhood. (After Seeligmüller.)

the skin (ichthyosis) since birth, and shows undoubted cretinic tendencies as manifested by a puffy face, coarse dry hair, a wrinkled and folded skin, absence of palpable thyroid, etc. The girl, also, was late in attempting to crawl, and has shown no tendency to walk, although there is apparently no disease affecting the locomotive apparatus as indicated by any paralysis, abnormal tendon jerks, spastic phenomena, or other untoward symptoms. The only obtainable history of a neurosis or psychosis existing in the family was that of the paternal grandmother, who for years is said to have been an invalid suffering from nervousness incident to a psychasthenic condition in which the fear of dirt (mysophobia) played the main obsessional role. One paternal aunt is said to have a girl (cousin of patient) who shows a roughening and scaling of the skin.

Personal History.—Patient, though the first child,

was born at full term. The labor, in spite of being a dry one, was not inordinately long, consuming about twelve hours. The head did not become lodged or wedged in the pelvic canal, no instruments were used, and the mother states that as far as she knows the birth was entirely normal. The birth weight is given as ten and three-fourths pounds. At that time nothing of an abnormal nature was noticed and apparently the child progressed normally. Was breast fed, weaned at the close of the first year, and the mother dispensed with the use of napkins at the customary time. The mother states that she never noticed a tendency to stiffness or a drawing inward of the thighs during the time the boy was wearing napkins. Dentition was delayed for over a year or more and no effort at speech was made until the age of three years was reached, and then only a few words were spoken which the family alone could understand. It was only after he had attained the age of five



Figure III.—Mode of Standing in Simple Spastic Paralysis of Childhood. (After Seeligmüller.)



Figure IV.—Showing the Facial Expression and also the Cutaneous Disorder. (Authors Case.)

years that the lad could carry on a very limited conversation. He made but little, if any, effort to crawl although he had use of both his arms and legs.

There is an absence of a history of any serious illness, convulsions, headache, vomiting, amblyopia or trauma. Apparently, the boy was never strong mentally for at seven years of age he was first started to school and entered the first grade with a brother, two years his junior. For two years he has remained in the same grade, being unable to learn anything except a very few rudimentary things, like a few numerals, one or two letters of the alphabet, etc. The younger brother is very keen mentally and has maintained easily his position in his class work.

Present Illness—The present condition was of such an insidious nature that no definite time can be established as to its onset. Although having use of his extremities, the boy made no effort to walk until after he was three years of age, and it was not until the age of four years was attained that he could walk unsupported. The gait was an awkward waddling one and gradually the custom of walking on the toes became more and more apparent until it was impossible for him to walk otherwise. His parents state that while he never crossed the legs in walking (scissors gait) yet there

was a decided tendency present for the feet to be placed well in toward the center of the body. While no definite time could be placed as to the primary appearance of the cutaneous disorder, it is said that the marked roughening and scaling of the skin did not occur until some three or four years after birth.

Examination.—Examination revealed some interesting clinical phenomena. Owing to a puffiness about the eyes and a fullness of the cheeks, the facial expression is not unlike that of a child suffering from a renal complication. The hair is coarse and somewhat dry, although it is said that the hair for several years was soft and fine. The palate is arched but no irregularities in the teeth are present. While the palpebral fissures are lessened, the pupillary reactions and ocular movements are all normal. There is an absence of nystagmus, the visual fields appear normal and the cranial nerves are all intact.

The heart and lungs are negative as far as the presence of organic lesions are concerned. There is an absence of cervical glandular enlargement and the thyroid gland cannot be palpated. The belly is slightly scaphoid, and no abnormality of the abdominal viscera can be found. The external genitals show poor development and it was with difficulty that the right testicle, which is very small, could be palpated at all. The left testicle has never



Figure V.—Showing the Extent of the Marked Skin Roughening About the Neck and Axilla, as Viewed From the Right. (Authors Case.)

descended although both external rings are patulous.

The station and gait are characteristic of a spastic paraplegic condition. The knees are somewhat flexed and the gait is markedly spastic. Pes equinus is pronounced, and in walking the heels are well raised in the air. The feet are dragged in such a manner that the toes of the shoes are worn off along their inner surfaces. The lower extremities are swung as a whole, while the pelvis is raised and lowered with each step. While the involvement of the adductor thigh groups has not been sufficient to produce a marked case of so-called "cross legged progression, or scissors gait", yet any attempt to separate the thighs readily brings the adductor muscles well into prominence, and in walking the feet are swung forward and inwardly, well toward the median line and at times the feet are really crossed.

There is no ataxia of the upper extremities, the grip is fair in both hands, but the pronation-supination test of Babinski (dysdiadokokinesia), while performed awkwardly, was more distorted on the left side. The deep reflexes of the upper extremities are maintained, the jaw jerk is somewhat exaggerated, and while the epigastric and abdominal reflexes are prompt, there is, as may naturally be inferred, an absence of any cremasteric response. As may well be expected in a spastic condition, the reflexes of the lower extremities are entirely in harmony with a corticospinal involvement. The tendon jerks are exaggerated, both patellar and ankle clonus can be readily elicited, and extension of the great toes can be produced by the Babinski and percussion methods.

The skin presents a roughened and scaly condition which resembles in the main an ichthyosis more than any other one of the dermatological types of cutaneous manifestations. A typical ichthyoid condition is found across the abdomen, chest, extending into the groins and on the back, while in each axilla and about the neck are noticed areas of cutaneous hypertrophy which are verrucous in character.

Mentally, the boy is greatly below par. While he amuses himself to a certain extent with picture books and toys, his fund of knowledge is exceedingly small. Repeated tests show that he can say but a few of the first letters of the alphabet and a few numerals. His answers to questions are slow and dragged out only with much effort. It is safe to say that his mental range would not extend beyond the four year limit as tested by the Binet-Simon scale.

Unfortunately, from a scientific standpoint, no Wassermann tests were obtained of either the parents' or of the patient's blood. Urine and blood examinations, however, were negative for any pathological changes in these fluids.

Treatments.—The treatment in this case extended along two lines, surgical and medicinal. For the surgical aspect I am indebted to Dr. C. E.

Ruth, whose report is as follows: "A tenotomy of each Achilles tendon was done, each tendon split and their inner halves inserted into the corresponding tibialis posticus muscle. Each remaining half of the tendon was connected by means of a strong silk, as a bridge, to the stump of each Achilles tendon, respectively, after which casts were applied with the feet in an over corrected position. Casts were reapplied at intervals covering a period of three months, after which proper shoes were fitted and the boy allowed to return home."

The report of the medical treatment pursued is about as brief and satisfactory as that of the surgical aspect. One tablet of the desiccated thyroid gland, equivalent to five grains of fresh thyroid from sheep, was administered three times daily. Mental improvement, though slight at first, was observed within a very short time. So steady was the improvement that in about two months time the entire mental, and, to some extent, the physical aspect of the case was almost revolutionized. The mother, who had not seen the boy subsequent to the institution of the treatment, was markedly surprised at this time at the readiness with which he exercised his mental faculties. Hand in hand with the improvement of the mental hebetude was noticed also the clearing up of the skin manifestation. Whether the latter was due entirely to the improvement of the general hygiene, associated with the administration of the thyroid extract, or whether credit should be given to the use of some special ointment which a relative believed to be of special virtue, I must leave to your consideration. Suffice it to say, the skin though never entirely clearing of a fine scaliness, however, was to all intents and purposes comparatively free from roughness at the time of dismissal, a little less than three months following the institution of medicinal treatment.

It may be of interest to note that a recent report states that the mental improvement, while somewhat slow, has continued to be progressive and that while the lad has not taken the interest normally manifested in school work by a developing child, still when he applies himself to his studies, he learns quite readily. The skin is said to be entirely free from scaliness and the ability to handle the lower extremities has been greatly facilitated since the institution of operative measures.

Comments.—There can be no question, I feel, but that the neurological diagnosis of early acquired spastic paraplegia is well sustained not alone by the history of the case, but by the clinical findings as well. While it is true that some of the American, English and German writers are prone to classify this form of nervous disorder under the general grouping of cerebral palsies of childhood, yet if we are to accept the teachings of the Salpetriere school of French neurologists, we are of necessity lead to believe that Little's disease is a dis-

tinct clinical entity, and results from an arrest of development of some portion of the corticospinal neurons, rather than from an injury received during the natal or post natal period of life. Histologically, it has been demonstrated that the upper motor neurons are well formed only at the ninth intra-uterine month, and, it has been farther shown that the component parts entering into the makeup of this portion of the motor apparatus are not completely developed until the second or third month after birth.

Bearing these points in mind, it is not unreasonable therefore to assume in this case that for some reason the axis cylinders of the pyramidal tracts failed to receive their protective coverings or sheaths until long after the normal time for the formation of such coverings had expired, and as a result a spastic condition, with its attendant phenomena, became manifest. The subsequent course of the disease, even with its insidious onset, resulting in a paralytic condition typical of a Little's paralysis again indicates the justifiability of such a diagnosis, and also tends to further emphasize the possibility that consanguinity, even though removed two generations, may be capable of playing an important part as an etiological factor in the production of an inferior type or grade of human organism. Further degenerative stigmata are evidenced by the undescended left testicle, absence of thyroid secretion and what was apparently a chronic cutaneous disorder. What role hereditary syphilis might play as a causal factor in such a case is at the best, in want of better proof, a mere conjecture, but it is fair to assume, in the absence of concomitant findings, that such a role, to say the least, is in all probability a subsidiary one.

Conclusions.—In the absence of definite pathological evidence, the following conclusions from a clinical standpoint alone, may be justified:

1. Symptoms referable to a corticospinal involvement in a true Little's disease may not appear for some time after birth.
2. The presence of stigmata such as anomalies in development, lack of thyroid function, and ichthyosis may be indicative of a degenerative condition which involves also the cells of the motor cortex or their neurons.
3. Artificial thyroid feeding should be resorted to in all cases showing a lack of proper thyroid function.
4. Consanguinity, even though remote, may be a factor in the production of an inferior type or grade of human organism.

Discussion

W. L. Bierring, Des Moines: This interesting paper presented in such a clear manner, brings up a number of points for discussion. In the first place,

it is evidently a coordinate study of several interesting problems found in the same individual. It presents a sort of a multiplicity of degenerative phenomena, first in the appearance of spastic paraplegia of the distortive type, associated with ichthyosis, and the symptoms of hypothyroidism. In the happy therapeutic effect obtained from the administration of thyroid extract, we have a further illustration of the fact that attention to every particular phase of the clinical condition is necessary if we would obtain the best results. In this instance, very excellent orthopedic treatment was applied for the spastic paralytic condition, and yet if the condition of hypothyroidism had not been recognized and the proper medication instituted, this individual would have remained of low mental ability where now he may become a useful member of society, even though somewhat handicapped by his paralytic condition.

Just how far the state of hypothyroidism can be considered in explanation of these different degenerative phenomena, it is probably not possible for us to determine, but evidently, from the good results obtained, both the ichthyosis and the symptoms of cretinism were due to the state of hypothyroidism, and that is why the substitution of the thyroid extract had such happy results.

Whether the spastic paraplegia may also be regarded as a degenerative phenomenon, is a further question, although the essayist has offered the attractive explanation of its being due to lack of development of the motor neurons and pyramidal fibres, so that it may be more or less associated with the other degenerative phenomena. In any case this is an illustration of what careful examination and close observation will do in giving further knowledge of these rather obscure conditions.

When this history was traced back to the grandparents, it was found that a distinct consanguinity or relationship existed between the grandparents on both sides, which offered an explanation for the lowered state of mental development, and emphasizing again the need of coordinate study between the different clinicians in order to fully grasp not only the diagnostic phase, but also the therapeutic side of the disease in question.

Frank M. Fuller, Keokuk: I think we ought not to let a paper of this kind go by without at least commenting somewhat upon the character of the construction of the paper itself. I do not know that I have heard a paper presented in the Iowa State Medical Society in which a history has been so fully outlined as in this case. Such minuteness of detail in the history of the case and such careful and orderly setting down of the clinical evidences, ought to receive the commendation of this body, because I believe that if there is any one line of work, that we as medical men should be seeking to perfect ourselves in more than we have in the past, it is in the careful study of the history and the clinical evidence as these are presented to us. We cannot make a diagnosis in a condition of this kind

without such evidence, we cannot make a diagnosis without weighing the evidence carefully, we cannot think a diagnosis. And so I wish to compliment the essayist upon that particular care that he has given to the study of this case, because without it the case would have presented no special particular elements of interest outside of the fact of its being one of the forms of spastic paralysis. I do not mean that the case does not have interest, but that it would not have been presented in a way that would have been of interest to us.

These cases are of special interest to us all, because I do not presume there is any general practitioner or any one doing special work among children, who does not find these cases appealing not only to his medical sense, but to his sense of humanity. It is hard to tell what causes this condition. My impression as gathered from the literature is that it is akin, speaking in a broad sense, to a club-foot or a harelip or a cleft palate, or any of the other faults of development that we may have in a child. And the essayist has brought out and emphasized that this is due to a failure of development in the neurons, making it impossible for this child to act and move as an ordinary child would do. The parents come to us with their child not only to have a diagnosis made, but the very first question they ask us is, what we are going to do with the case? And that is always the serious problem—what are we going to do with this child? Are we going to do a tenotomy or any of the other orthopedic procedures which might give this child an opportunity for fairly good service in its fight for life? That is a problem that has to be determined in each individual case.

I have two children now in whose cases I am considering when it will be advisable to do the necessary work. If any one here has found in their experience or reading any rule or suggestion that will tell us when is the proper time, not too soon and not too late, to do this work, I think we would all appreciate it, because I am very well satisfied that there is a time too soon to begin any attempt to correct this spastic condition, because the spasticity is sometimes enormous and the contraction will continue to exert its action upon the muscle even after operation upon the tendon.

Dr. Throckmorton: Dr. Bierring, in his remarks, brought out the point that I had most wished to emphasize, namely: that it is not always the single condition or the one standing out the more prominent clinically, in a given case, that we as physicians are necessarily called upon to treat. Every case, coming under our observation, should be considered in its entirety and every phase of the clinical picture should be carefully studied and proper treatment instituted for the correction of abnormal tendencies, whenever possible. In the case I have just presented, it is not conceivable for the different departments of medicine to be separated and at the same time obtain anything like satisfactory results. Thus we see the interdependency and

relationship of the various departments of medicine one to another.

I certainly did not expect this to be an occasion for the presentation of bouquets tonight, and in order that the Society might not be totally misled by the remarks of Dr. Fuller, I will have to say that probably the doctor may be a little biased in his opinion inasmuch as it was my opportunity at one time to have had the privilege of being a student under his instruction.

THE NEW SERUM TREATMENT FOR EPILEPSY

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When discussing the treatment of epilepsy our first thought is directed toward the large, the formidable array of remedies, which have been lauded, used, abused and discarded in the treatment of this malady. Thinking of epilepsy, the general practitioner has in mind the awful chronic disease, considered incurable, the occurrence of which in his practice, makes it incumbent upon him to disclose to the interested parties, that his medical skill has encountered a foe which he can not hope to successfully cope with.

The preservation of the doctors reputation makes it imperative that he inform the patient or members of the family, of the gravity and unfavorable prognosis of the disease.

Having thus done his duty, the family physician will often see the patient return to him with the request for such alleviation as he, under the circumstances may obtain. At such time it is a patient who has resigned himself to his disastrous fate, that now comes for treatment to the doctor who first diagnosed and prognosticated his case.

Before this the patient has, in most cases, consulted every person, layman and professional, and has been a victim of every remedy that seemed likely to afford relief. For epilepsy has more medicinal failures and more quackery to its credit, than almost any other human affliction.

Thus the first period in the epileptics career is ushered in. The period of resigning himself to adopt the lesser of two evils, the evil of accepting medication which slowly but surely, as a limping messenger arrives in time at its goal; a goal that is everything but cheerful, an end that spells in most cases "mental deficiency" and worse, for the patient.

Epilepsy has engaged the mind of people ages ago and we find indeed, this condition referred to as the "morbus sacra" the sacred disease of the ancients. That a disease, such as epilepsy, should appeal most powerfully to the supersti-

tious and ignorant and lend itself readily to exploitation by the designing, lies within the very nature of the thing.

So when we look back into the remedies once applied for epilepsy, and their number is legion, we encounter through the misty past the sorcerer in all earnestness and with a self assertion, befitting a worthier thing, going through his antics in an attempt to "cast out" the demon from the epileptic, the possessed one.

Truth compels the admission, that as far as the poor epileptic is concerned, the fervor of the holy medicine man of the dark ages, whose treatment consisted in banishing the demon from the patients body by the use of red hot irons, has done as little good as has the modern M. D., who followed in the wake of the ancient faith healer, with his armament of inefficient, and too often harmful remedies.

In the face of the fact that all medication up to this time has not sufficed to produce an anti-epileptic remedy combining efficiency plus harmlessness, in view of the fact that many once enthusiastically heralded remedies have failed to justify their employment and above all, the tragical spectacle that despite all existing antiepileptic remedies, our insane asylums, our infirmaries, our homes for feeble minded and our epileptics' colonies are still brimming over with mentally degenerated epileptics, in view of all this, it is with pardonable reluctance, with justifiable hesitance, that one approaches an audience of scientific men with something new about so old a malady as epilepsy. At first thought it would seem that where so much had been tried, nothing new could be found; man's ingenuity would be exhausted, and that epilepsy would continue to baffle medical science as it has done from time immemorial.

The question in the readers mind must be whether this treatise will record the announcement of a new and really valuable remedy, something that is fit and better than our present day treatment for epilepsy, something to supplant the old method of epilepsy therapy; or will the new remedy discussed here, share the fate of countless other therapeutic measures and go down into oblivion as a new fad, a fancy, a tried and found wanting remedy.

Realizing that such or similar must be the justified thoughts of skeptics who have hoped and lost before, it is with a certain degree of anticipation of antagonism, that one announces ones convictions.

But it is the conviction of being on the right road which imbues the earnest investigator, the encouragement which clinical results lend to our

pet theories, it is that which acts as motive force in overcoming all reluctance and bringing my new serum treatment to the attention of the medical profession. We all have been taught to look upon epilepsy as a lesion of the brain cortex, and into the hands of all of us, metamaphorically speaking, have the apostles of such teachings pressed a good sized club with which to knock epilepsy into temporary abeyance whenever this enemy raises its head.

The name of this club, as all know, is bromide, the accepted routine treatment for epilepsy. So we have indeed on our errands of ministration to the sick, met the dreaded foe and dealt a stunning blow with the chief anti-epileptic sedative. We have thus actually subdued epileptic attacks, for a spell anyway, and gave the patient freedom from seizures, which for social and physical reasons made him grateful to our skill of prescribing.

Experience has unmistakably shown, that striking thus at epilepsy, the patient could never be protected against part of the stunning force inflicting some injury upon him too. Sooner or later, but at all events too soon for the unfortunate victim of epilepsy, there becomes manifest a general sluggishness, confusion and irritability of temper; mentally as well as physically the patient retrogrades, forgetfulness may be noticed, and often a very unpleasant skin eruption, the well known bromide rash, makes its appearance. Thereupon we discontinue with the bromide and promptly the temporarily suppressed epileptic seizures reappear with renewed and increased severity, leaving the patient after the attack in a far worse mental stupor than was the case before the event of bromide medication. The observing physician begins to suspect that bromide has disguised, while not stayed, the progressing mental decay of the patient while being charged with the drug.

Other remedies are resorted to, until, being pressed by the patient and family, who seem to consider the arrest of the attack the paramount desideratum, much advertised combinations of bromides are called to aid, and so the work of destructive bromide brutalization, if you please, is carried on.

All this is to no other avail than to keep the patient for varying periods from attacks at a price fearful in every respect, as it costs the patients mental equilibrium, his mental soundness, his sanity.

As on former occasions, I repeat the statement, that bromide in the treatment of epilepsy, is a distinct, a cardinal failure, a mistreatment par

excellence, as far as reclaiming the patient from the disease is concerned.

Statistics and authoritative opinion support my claim, that the use of bromide has permanently deprived many epileptics of what sound mentality the disease itself had left them; has sped the way of many such patients over the borderline that separates constitutional disease from insanity. Those who incline to look upon this statement as an exaggeration, should look to the multitude of bromidized insane, incompetent, degenerated, homicidal, perverted epileptics who abound in institutions and private homes everywhere. After having seen enough of these unfortunates, let us compare them with the few epileptics, whose good luck, amidst their misfortune, it was to be under the guidance of people who stoutly refused to bromidize their charge. That epilepsy itself, without the agency of brain sedatives, does not rapidly deteriorate the patient's mental faculties, is amply shown by the existence of epileptics who do intellectual work and whose capacity for real work remains at par in the ratio to their abstinence from bromide. In connection with this one might mention well known historical epileptics such as Nero, Caesar, Mohammed, Napoleon and others. If bromide could be administered for prolonged periods, thereby arresting the epileptic attacks, keeping the patient free from these dreaded seizures, without subduing cerebration and without producing the gastric and other disturbances so common during bromide treatment; if a method of bromide treatment had been evolved under which the patient remains free from attacks and at the same time maintains an unclouded mind, then there would be less urgent need for a remedy to supplant bromide in its spell suppressing effect. When a remedy is found that will reduce the number and severity of seizures, arrest attacks and gradually increase the length of spell free intervals and do all this without in any manner impairing the mental or physical condition of the patient, then may we rightly assume to have entered the gateway which will ultimately lead to complete recovery from epilepsy. The new serum treatment for epilepsy, to which I desire to call attention, contemplates just such program, and we shall see how far it has progressed. A new therapeutics, the production of an antiepileptic serum, could naturally follow only in the wake of a new pathology of epilepsy. It became evident that the present day views of etiology and pathology of epilepsy were untenable, that our present day theories do not harmonize with certain phenomena as elicited in

carefully selected and treated cases with the new serum.

The metabolism of the epileptic is pathological as is evidenced by the fact that waste and food products are converted into epileptogenic toxins instead of being disposed of in the manner incidental to a normal, non-epileptic metabolism. The appearance of septic infection in an epileptic results in an increase of epileptic condition, either in point of severity or frequency. This is due to the epileptic attractive principle of the epileptics blood, which means that the blood possesses a specific affinity, a characteristic selective action of utilizing products of metabolism for the production of epileptogenic toxins, absorbing and retaining the same.

The intestinal flora furnishes a very important source of supply for the converting of septic material into toxins. Epileptogenic toxins are thus manufactured and absorbed into the blood stream where they accumulate. In turn these toxins circulate through the system, poison the brain centers and under symptoms of toxicity, auto-intoxication, give rise to confusion, mental derangement, paralysis, convulsions, epilepsy. Patients who commit great errors of diet and in other ways cause intestinal irritation or sepsis, experience as a rule, increased epileptic manifestations. Convulsions due to gastric irritation, in non-epileptics are not uncommon. The occurrence of intestinal fermentation and putrefaction, often accompanied by great abdominal distension, is equally characteristic as a forerunner of seizures in many epileptics. On the other hand, if a non-epileptic partakes of the same food and commits the same onslaughts upon his diet, or becomes burdened with intestinal conditions which mean so much trouble for the epileptic, no grave consequences ensue and certainly no epileptic attacks result therefrom.

It appears that, due to the fact that certain foods have been noticed to cause the epileptic to grow worse, doctors have tabooed various foods and formulated a restricted diet, the gist of which dietary is the recognition, that something in the epileptics economy possesses the power to manufacture these foods into products, favorable to the release of epileptic seizures. Diet the patient as we may, there always seems active some agency, drawing from whatever available food and waste material of the epileptics system sufficient epileptogenic toxins, absorbing the same into the blood stream, bathing and saturating every cell of the body and registering its presence by the release of epileptic seizures. That these toxins are produced from foods and sources

which do not effect the non-epileptic, strongly hints to a vast difference between the mechanism of the non-epileptic and epileptic metabolism. The converting of body material into epileptogenic toxins, neurotoxic material, is due to the pathologic metabolism of the epileptic, the epileptic metabolism. It is part of the function of this faulty metabolism for the blood to possess a characteristic affinity for these toxins, to seize and retain such in contradistinction to the function of a healthy metabolism, which would throw off these products as waste. So we have a pathologic metabolism plus toxemia, the latter depending on the first. This is the foundation upon which the new serum treatment is based. That the epileptic's blood possesses characteristics wholly unlike the blood of the non-epileptic, is amply demonstrated by several interesting experiments. If, for instance, the blood serum of an epileptic is injected into a healthy, non-epileptic person, no noteworthy effects are elicited. But if such serum be injected in an epileptic it gives rise to a specific reaction, increase of attacks, sometimes very severe, confusion, headache, dizziness and other toxic disturbances, besides local reaction in the form of redness, soreness and swelling at the site of injection. These experiments are founded on the simple and wonderful mechanism of osmosis, so strikingly brought back to our notice and made valuable by the Aberhalden reaction principle. For instance, if a rabbit is prepared for anaphylactic reaction and the serum of an epileptic hypodermically injected in such rabbit and then the cerebro spinal fluid of the same or other epileptic be subdurally injected in the rabbit, there result epileptic seizures in such animal. But if the serum or the fluid be from a non-epileptic, there will be no such reaction. The location of injection may be altered, so that the serum is injected subdurally and the spinal fluid hypodermatically, yet the epileptic attacks will result. The important point and the mechanical principle upon which the success of the experiment rests, is, that the two substances, spinal fluid and serum, be from epileptics, so that by the process of osmosis, one may meet the other. Accepting the theory of toxemia as the cause of epilepsy, it stands to reason that the proper remedy must be one that is capable of detoxicating the blood, free the system from epilepsy producing toxins. This alone, despite its appealing importance, will however not suffice, for after the removal, elimination and neutralization of these toxins, there remains, what I have termed the epileptogenic attractive principle of the blood which is the responsible perverted metabolism. This continues

to seize upon body material, waste and food, and convert the same into epileptogenic poisons. This too then, has to be overcome, something must be done to arrest or blight this epileptogenic function, some agency introduced into the patient's economy which will interfere with, counteract or destroy this pathological action. As long as these toxins are manufactured, they will accumulate until sufficient to irritate the cortex into epileptic explosions. Depending upon the amount of toxins present, but not less so upon the state of cortical resistance, the toxic influence will be light or severe, the attacks ranging from a slight, fleeting confusion of a few seconds duration to the most violent and severe attacks of status epilepticus, consisting of perhaps a hundred spells, one succeeding the other rapidly, accompanied by the voidance of feces and urine, and not infrequently terminating in the patient's death.

It is self evident that the greater remedy would be one which would, as mentioned before, give battle to the epileptogenic feature of the epileptic's metabolism. There are, no doubt, constituents in the epileptic's blood, which exercise the pathologic function of intoxicating. Everything in the field of experience and research points clearly that way. Could we introduce some element into the blood stream, in the presence of which the epileptogenic function could not assert itself, in the presence of which the *specific selective function of the brain cortex* were subdued, then we are justified in taking courage at the prospect. Such agency should attack the ultramicroscopic organism or whatever is the responsible element in the epileptic's blood; it should by the blood stream be carried to the brain and bathe the cortical cells in it for the purpose of *neutralizing the cortical cells function of uniting with epileptogenic toxins such ferments as result in epileptic attacks*. The element introduced must be one that does in no way interfere with normal cerebration, it must not stun, not anesthetize the brain sensibility, for if it does that, it is no longer a curative agent but merely a disguise for a condition still remaining. Such a substance moreover should not be a foreign element but one closely, very intimately related to the patient's body fluid, so that complex combinations, unattainable in chemical laboratory may find entrance into the system so that the still unrefuted principle of "like cures like" may assert itself.

Such a substance would have the office of charging the patient's blood with constituents, in the presence of which the epileptic attractive

principle could not function, it should weaken or render powerless these forces.

In theory the ultramicroscopic organism, responsible for epileptic seizures, upon the introduction of antiepileptic elements, receives an abundance of material which they, by virtue of their own attractive character, are bound to attack. This attack, contrary to the attack upon other products, results in the splitting up, setting free or processing of antiepileptic toxins, perhaps more properly termed antiepileptic ferments. The more of these antitoxins are caused to course through the blood stream, the less becomes the activity of the epilepsy producing constituents, toxins or ferments present in the patient's economy. It is very likely that the cortical cells set free a specific secretion, not found in any other cells, and that such secretion (of a pathological metabolism) is responsible for epileptic seizures. Remembering that the various organs of the body produce secretions characteristic of the particular organ, which is a conglomeration of cells, like the adrenal, pancreatic, liver, etc., it is a very reasonable assumption that the cortex cells secrete a specific, characteristic substance, not produced by any other organ. This substance exerts the before named affinity for introduced antitoxins consisting of similar cell substance, and is thus supplied with additional ferments with which to ward off epileptic seizures. This process should be considered in the manner of supplying the brain cells with material in the presence of which epileptogenic material present there, is neutralized. Repeated bathing and thus blighting of the epileptic brain substance by antiepileptic toxin, will ultimately produce a condition, which I have termed the non-epileptic habit. To understand the application of this term, we must remember the doctrine, (expressed, I believe, by Herring) that every cell is possessed of a memory. Give every cell in the epileptics economy cause to remember that the epileptic attacks have ceased, by preventing such, and they will actually cease. I would warn from construing these remarks as in any way relating to the otherwise efficient method of suggestion. The memory of cells must be accepted in the light of intricate biological and chemical function, a memory developed by habitual response on the part of the living cell, to the stimulus exerted by certain alkaloids. It may be compared to the drug craving of a patient whose objective mind, realizing the danger of habitual drug ingestion and in full possession of his sound mentality, desires to discontinue the use of the habit forming drug. Every drug steeped cell of his system cries out against the sober judgment of his mind,

demanding gratification of the habit, the memory. So in epilepsy, the longer the patient's brain cells are held free from epileptic toxins or ferments, the longer the spell free intervals, the deeper will the non-epileptic habit be established.

All this applies of course only to epilepsy not suppressed by drugs. This epileptic habit demands recognition in connection with Jacksonian epilepsy. Here the reputed cause being pressure upon the cortex, does not give rise to continuous convulsions (status epilepticus) in the afflicted individual. The attacks recur with irregular periodicity and severity, sometimes several times daily, then again not for weeks or months, exactly as in other cases (the idiopathic type) of epilepsy. One is justified in asking why the Jacksonian epileptic is not all the time, while the pressure upon the cortex persists, under the influence of such pressure, why not in a "status epilepticus." The confusion increases (if we credit the pressure theory) when we notice, that after trephining, exact location of cortical pressure and removal of the same, the attacks do by no means decrease, and that after the operation it is required that the "epileptic habit" be treated. Persistent administration of the accepted standard remedies directed against this "epileptic habit" remains too often utterly fruitless.

May one not reasonably assume, that in case of Jacksonian epilepsy, the damaged cortex presents a locus minoris resistentia, hence a hypersusceptible area for epileptogenic toxins coursing in the patients blood and also creative of epileptogenic ferment production by the injured brain cells. The weakened brain cortex offering no resistance to the responsible substances, whether ferments or toxins, are poisoned first or perhaps alone of all the organs and thus enable the observer to notice the registering of the toxins by release of convulsions and mental derangement. Does not treatment of the epileptic habit merely mean to afford the recently damaged cortex time to repair, thereby placing it upon an equal basis of resistance with the cortex of the idiopathic epileptic? Does not this point to some other force in the physiology of the epileptic, some other factor that possesses the power to record its presence upon the cortex by releasing epileptic attacks; a cause remaining and still controlling unabated after-removal of the supposed cause. This too supports the contention that in the blood, perhaps in the brain (carried to it by the blood) of the epileptic, is contained an epileptogenic material, a toxin which poisons the cortical layer of cells and results in epileptic attacks. These toxins do not cause continuous seizures because the necessary toxic material is being con-

tinuously produced and accumulated and only after reaching a certain ratio to the epileptogenic principle (call it ferment) present in the blood or brain, is the charge sufficient to upset the centers. The specific affinity which epileptogenic toxins seem to display for the cerebral cortex, caused epilepsy to be termed a cordical lesion per se, thereby losing sight of the very probable existence of a specific substance, present in *every brain cortex*, which is a product of the cortical cells and which product unites with other substances, homogeneous to it and present in the blood. The latter blood constituents are pathological and together with the normal brain secretion produce epilepsy. This peculiar affinity caused me to draw comparisons between epilepsy and rabies. While conclusions to which such comparison tempts may appear rather bold, the fact of a striking similarity remains. Laboratory work conducted with the mentioned similarity in mind, divest first formed conclusions of much of their apparent daring character and lend much ground to expect important developments.

In symptoms as well as in pathology of the two conditions, much similarity may be found. Rabies as well as epilepsy depend upon an unknown, respectively undemonstrated organism. It is only of later date, that Noguchi is said to have isolated the organism of rabies. Both diseases have the cortex as a selective site or nidus for the responsible toxins. In epilepsy as well as in hydrophobia, one may observe perspiration, vomiting, pain, mental depression, restlessness, insomnia, joint pain, diarrhea, constipation, dizziness, tinnitus aurium, dyspnea, muscular contraction and convulsions. In hydrophobia recovery is unknown, (I am aware of the one case cited in literature) and in epilepsy, the tenacious recurrence has brought that malady under the head of incurable conditions. In both diseases the fundamental cause is a neurotoxic material (I think a ferment) in rabies the course of travel of the virus to the centers being along the nerves. In rabies too, immunizing results were obtained long before a responsible organism could be demonstrated, so that treatment of epilepsy by serum injection is, as was the case with rabies, based upon empiricism. Whether anti-epileptic serum influences the germ destroying phagocytic leucocytes, stimulating the same to increased activity, creating in them, by supplying epileptic nourishment, a habit to act preferably upon epileptogenic substance (either germ, virus or ferment) or whether the serum acts as a detoxicator after having reached the cortex, is not determined. Experiments and clinical results demonstrate that repeated inoculation with anti-epileptic

serum establishes freedom from attacks, in a gradually increasing length of spell freedom. This is true of the animal as well as of the human being.

The protective, preventive, detoxicating and toxin-blighting properties may reasonably be assumed to be inherent in a serum developed from epileptic's blood, laden with epileptogenic substances. This view is materially strengthened by observations to the effect that epileptic toxins automatically produce an antitoxin under certain conditions, in the patient's body. (Autogenous.) We find that epilepsy at times ceases as if of its own accord, spontaneously. Antitoxins thus formed appear to protect the system for a period lasting until the original cause reasserts itself. This event is followed by the production of new toxins, in excess of the prophylactic dose of the autogenous antitoxin. We all know of cases where epilepsy, after having defied all medication for years, has suddenly ceased, leaving the patient free from attacks for a time, then to reappear. In such instances one is justified in accepting the theory that the epileptic principle of the blood was effectively blighted or counteracted, the pathological metabolism controlled by a sufficient dose of autogenous antitoxin. This antiepileptic serum, no doubt, was gradually generated as a result of epileptic seizures and set free by some unknown mechanism of metabolism.

Overcoming Disadvantages.—In overcoming the disadvantages which were part of the early serum injection such as excessive local irritation and unpleasant toxic reaction, the fact was emphasized that slight changes in composition and mode of procedure are often followed by remarkable and decided alteration of the physiological effects of the so altered product. So for instance, I have found that anti-rabific virus, used alone, has no anti-epileptic property; epileptic serum alone possesses often highly unpleasant and irritating features at the same time lacking many of the characteristics pertinent to the attainment of the desired effect. Cerebro spinal fluid, unmixed, also proved ineffectual, while a combination of any of the mentioned substances left discouragingly much to be desired.

Considerable experimentation and long series of tests finally led to the production of an anti-epileptic serum, which has its foundation in a method by which all three of the named substances are employed. The anti-epileptic serum gained by my process, possesses a minimum of irritating power and has in actual practice proven effective to arrest epileptic attacks, entirely re-

placing bromide. The present method of preparing this serum is a tedious one, commercially not tempting, and allows of great improvement, which eventually will be obtained. The results thus far achieved justify the expenditure of much time and patience, as is amply demonstrated by the fact that confirmed epileptics have been kept free from attacks for periods ranging from eight weeks to nine months by no other treatment but the injection of the serum plus administration of intestinal antiseptics. Attacks occurring during the serum treatment were characterized by an unusual mildness and the absence of postepileptic stupor. Physicians who have treated patients by injections of anti-epileptic serum, report a decided improvement in the mental condition of their patients. Clinical observations have demonstrated that anti-epileptic serum so prepared is not only fully able to replace bromides as far as the arrest, and prevention of the seizures is concerned, but that it also lacks the well known disastrous drawbacks which attach to prolonged bromide administration. Moreover, considering the mental state of the patient, anti-epileptic serum strongly tends to establish a very noticeable improvement with a tendency toward freedom from attacks, while bromide diminishes this chance in the ratio at which the patient's mental faculties deteriorate by the bromide medication. The state of brain fog and sluggishness so often seen in bromidized epileptics is never experienced with the serum treatment. A balance between the epileptic attractive blood constituents and the newly introduced protective elements seems to be established, which finally should be maintained without further introduction of new serum.

LIMITATIONS OF SURGERY IN THE TREATMENT OF PELVIC INFLAMMATIONS*

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The limitations of surgery in the management of pelvic inflammatory lesions is a subject of growing interest.

In the days of Emmet, Sims and Fordyce Barker, conservative measures were practiced to the almost exclusion of surgery. Then followed a period of unrestrained activities in surgery. There was wholesale slaughter of infected uterine appendages, vaginal drainage was practiced in the initial stage of the infection as a prophylactic measure, the uterus was mercilessly

scraped and not infrequently removed. Now we may fairly say that the profession in large part, has turned again to conservative methods. It has learned through laboratory studies and clinical observations that the forces of nature at work in and about an inflammatory zone can be confidently relied upon to repulse the offensive movements of the allied micro-organisms of infection; that natural barriers are established which are usually adequate, if not broken down by the overzealous surgeon. To illustrate my point, let us recall the familiar picture of a puerperal infected uterus and the inevitable sequence—curettage. The puerperal wound has been attacked by micro-organisms capable of producing a local or general infection. Nature's forces respond by creating in advance of these organisms a protective zone in which innumerable leucocytes are found, the vein channels are obstructed by thrombi and the lymph and blood channels are constricted by the contracting uterus. These local conditions, together with the general resistance of the individual, are usually adequate to hold the micro-organisms in check, thereby preventing a widespread infection, but that deadly weapon which Emmet has characterized as an "instrument of the devil," proceeds to break down this protective zone, to tear down the obstructing thrombi and to relax the grip of the uterine musculature upon the lymph and blood channels along which the infection may travel. *How seldom we see a severe type of puerperal infection that has not been tampered with.* The cautious removal of retained placental tissue and vaginal drainage of a pelvic abscess is the sum total of justifiable surgery in the management of puerperal sepsis. To attempt more is to invite disaster. The best results in the treatment of puerperal infection will be obtained by the doctor who can exercise the greatest degree of self restraint and who is wise enough to relegate the care of the case to a competent nurse with instruction to give the patient abundance of nourishment, fresh air and rest. I will hazard the statement that more lives are lost and more ill health engendered by untimely surgical intervention in puerperal sepsis than have ever occurred through lack of surgical attention.

What has been said of the management of puerperal infection will apply with equal force to all forms of acute pelvic infection. Gonorrheal infection of the pelvic organs shares about equal honors with puerperal infections in point of frequency, and here as in puerperal infections, the tendency of the infection is toward localization if unmolested, but the swab and the curet tend to spread the infection deeper into the uterine mus-

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culature and on through the uterus to the appendages and pelvic peritoneum. Gonorrheal infection will seldom make considerable inroads upon the pelvic structures if rest is enjoined and the surgeon restrained.

We will dismiss the consideration of the surgical limitations in the treatment of acute pelvic inflammations by repeating that the only surgical measures to be employed in puerperal infections are the removal of secundines and drainage per vaginum of a pelvic abscess. In the acute stage of a gonorrheal infection, surgery has no place. Permit me to offer a word of caution in the draining of a pelvic abscess. We are not only to proceed deliberately lest we break down the barrier which protects the abdominal cavity, but we are to exercise the greatest caution for fear of dislodging infected thrombi in the pelvic veins.

It is not such an easy task to outline the surgical limitations in chronic pelvic inflammations, but I will venture upon some generalizations for the purpose of eliciting a discussion. First of all, I desire to pay my respects to endometritis and its management. We owe much to Hitchmann and Adler for their observations on the cyclic changes of the menstrual membrane. Throughout the period of sexual activity, there is less than one week out of four in which the endometrium is at rest. At all other times there are well defined anatomic changes incident to the menstrual cycle. The enlarged irregular glands, the varied changes in the connective tissue, all characterize one or another of the various stages of menstruation. We have erred in the past by regarding these changes as inflammatory in character and to them we have freely applied the terms hypertrophic or hyperplastic glandular endometritis, and in so doing, we have justified the use of the curet. While we do not deny the identity of endometritis, we do now know that we have very frequently indeed, mistaken a normal process for a morbid one. Furthermore, we have learned from Theilhaber, Reinecke and others, that changes in the myometrium are responsible for many of the menstrual disorders which were formerly chargeable to the endometrium. And we have learned from a host of observers that an hypertrophied endometrium may be of ovarian origin; that the menstrual disorders are chargeable to the hyperfunctionating ovaries rather than to the uterus. These are but suggestions that the curet will fail to afford relief in a large proportion of menstrual disorders.

When we have to do with an infected uterus, we cannot expect to remove all the infected tissue by the curet, and if all is not removed, may we not expect a regeneration of the diseased mucosa

and a possible deepening of the infection through the wounds we have made? These general remarks prepare the way for the dogmatic statement that it is needless and dangerous to scrape an infected uterus. We do not curet for leucorrheal discharges unless for the purpose of making a diagnosis from the scrapings, and then only when malignancy is suspected. Have you not noted that where the uterus has been curetted for relief from leucorrheal discharges that following the procedure, the discharges are increased, and have you not time and again observed the development of a salpingitis and a pelvic peritonitis following upon a curettage of an infected uterus? I will go so far as to lay down the dictum that the therapeutic use of the curet should be restricted to the control of hemorrhages, and even in this restricted field there is often no prospect of gaining more than temporary relief because the determining factors are so often remote from the endometrium.

Formerly full 25 per cent of my operations were directed to the relief of pelvic infections—of late, the number does not exceed 5 per cent of all cases operated. This is so because of my growing faith in the restorative powers of nature and of my dissatisfaction with the results obtained through surgical means. I here refer particularly to infections of uterine appendages. The vast majority of these cases can be brought to a symptomatic cure if tentative measures are persistently employed and I ask,—can surgery do more? Surgery will not replace a diseased tube or ovary by normal ones, and if the patient is relieved of all symptoms, what more can we do? But, unhappily, our surgical activities have often resulted in substituting a pain in the side for distressing general as well as local disturbances. Post-operative adhesions may produce as great local distress as did the offending tube and ovary, and the removal of the ovaries prior to the menopause will almost certainly create distressing general conditions. When conservative measures have been faithfully pursued and have failed to give the desired relief, surgery must be invoked, but it should be a discriminating sort of surgery. There will seldom, if ever arise, the justification for the removal of both ovaries in a woman less than forty years of age. Better that she retain one ovary or a part of one ovary, and that a troublesome member, than to suffer a total loss of her ovarian secretions. In other words, it is better that she suffer some local discomfort than to become a hopeless neurotic. Where the uterus is deeply involved and it is advisable to remove the tubes, I am of the opinion that the best results will follow a complete hysterectomy.

Less than this will fail to give complete relief and might endanger life from post operative complications for lack of adequate drainage.

I will end this diatribe by asking you to refer to your case records of the past ten years. Note the conditions before operation, the surgical steps taken and the early and remote results obtained. Then compare your results in this class of cases with those obtained from operations on the pelvic organs for all other sorts of lesions excepting cancer, and then ask yourself if you are satisfied with your surgical results in pelvic infections. If I am not very much mistaken, you will arrive at the conclusion that your results have been comparatively unsatisfactory; that you will find a larger percentage of mortality and morbidity following operations upon this class of cases than upon any other, barring malignancy.

THE LABORATORY AS AN AID TO DIAGNOSIS*

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The idea that the laboratory should make the diagnosis for a physician is an erroneous one. Diagnosis does not consist of any number or series of tests made in the chemical or biological laboratory, nor does it mean that one has gone through all the physical tests laid down by the modern text-book and practiced by the up-to-date physician, nor is it a product of the X-ray machine. Diagnoses are made by brain cells which utilize all these contributory factors, and correlate and interpret them. The laboratory is not a cure for diagnostic ills, but it is a very good aid to correct them. It contributes its mite to confirm or destroy ideas gained by other methods. The physician, however, who neglects his history, his physical findings will go on making false diagnosis no matter how much pus he sends to the laboratory or how many X-ray plates ornament his walls. It must not be thought for a single moment that a laboratory can be a substitute for brains. It is an accessory to diagnosis, an important aid, which on the one hand confirms evidence gleaned from the history and the physical examination and on the other directs the mind to things which may have been overlooked. The laboratory findings in and of themselves are trivial, but taken in conjunction with the other findings, they form a very important link in the chain of evidence and one which no good man can afford to be without.

The laboratory may give the man sitting on the fence, courage to jump down. It illuminates the field and makes dark problems clear. It stimu-

lates more careful search for the cause even if it does not reveal the cause of the trouble. Who of us when struggling with the diagnostic riddle of a typhoid or a trichinosis, is not happy to get a blood picture of the case. Typhoid almost always produces a leucopenia while the trichinae have the ability to stimulate in some way or other the over-production of eosinophiles.

If the laboratory is to accomplish the most good, it must be closely affiliated with the clinic or the practitioner. The director of the laboratory should not only be a close observer of the changes which take place in the test tube, but he must be a careful student of changes both physiological and pathological which take place in the human body. He should be able to transfer his test tube findings to the patient and account for the findings, understand their meaning and be able to form a picture of the ultimate effects. An albuminuria which may excite suspicion in the test tube, when studied in connection with the patient may mean a beginning or active menstruation, a profuse leucorrhea or the over indulgence in raw eggs. The low specific gravity may mean an increased use of water either normal or adulterated just as well as a diseased kidney, while a high specific gravity studied in connection with the particular patient may have no significance. How well I remember the shamefaced expression of one of my fellow practitioners of another state, and you will pardon personal reference, when I discussed a most interesting case of polyuria in an eight month's pregnant woman who had accidentally been diverted from his office and sent to mine. This woman was passing four gallons of urine a day. The physician had religiously analyzed the urine every two weeks and had just as religiously recorded the specific gravity of 1002, but had in this case, failed to use his brain. He had perhaps done the laboratory work with faultless technic, but he had failed to hold a postmortem on his results. He did not ask for a twenty-four hour specimen and thus lost an interesting and an important case. Low specific gravity always calls for a twenty-four hour specimen, a search for the cause of the low specific gravity, a careful study of the history of the patient, past and present, and some forethought as to the future results as much as it calls for a one dollar bill. If the results of the analysis are not going to be used, you might just as well throw the specimen in the sink and charge the patient for the privilege of carrying it to your office. It is just as essential that the physician consult with the specialist in the laboratory and turn over his findings to him as it is for the laboratory worker to turn over the

*Read before Webster County Medical Society.

results of his work to the physician. The laboratory should not be a place only where routine work may be done with greater speed than it can be done in the physician's office, but it should be a room for consultation where results may be discussed, the case studied and the findings correlated.

To get closer to my subject, I might say that there is hardly a case but which may have some light thrown upon it by the laboratory. In the leukemias, it is absolutely essential. In this disease, the blood count with a study of the pathological cells, tells us whether the enlarged spleen, which we have found and from which the patient complains, is the result of malaria, typhoid, or one of the dread blood diseases which causes so many interesting changes in the cells, but the cause of which we know little, and of the treatment we know less.

Every troublesome disease calls for a blood count, both absolute and differential. It is as essential even in routine as is the routine examination of the urine, and in most cases tells us so much more. Even though it may not give us anything definite, it will rule out a whole lot of possibilities which may obscure our diagnostic vision. An eosinophilia may point to animal parasites and center our attention on the intestine looking for tenia or in the muscle searching for trichina. When animal parasites are excluded, we have narrowed down, markedly, the diseases which produce an increase in the eosine cells. The increase in myelocytes causes us to read up on myelogenous leukemia while the increase of lymphocytes points to a lymphatic type of disease. A blood count tells us almost at once whether the high fever is caused by the pneumococcus or is a result of the invasion of the body by the typhoid bacillus; for rarely do we have a pneumonia without a leucocytosis, and a typhoid usually causes a decrease in the white cells, a leucopenia. In pneumonia, the blood tells us much more than does the temperature, and especially is this true in children. Who of you have not almost clapped your hands with glee when you saw the temperature of your little patient sink lower and lower, an apparent crisis, only to have your happiness clouded with gloom as the pseudo-crisis was followed by a rise in the fever. The temperature had deceived you. Had you had a blood count made, a different tale would have been told. Had you examined the leucocytes when the temperature fell, you would have found that they still were increased, they did not fall with the temperature. The fight was going on but the temperature did not show it. When the temperature and the leucocyte count go down together,

you may know that crisis is at hand, but when you get a decrease in temperature without any leucocyte change, rest assured that the temperature will come up again.

Chills and fever call at once for a blood examination. If the patient has an attack of malaria, the organism may be found. The diagnosis of malaria should be made in the non-malaria districts only on either getting a history of a past infection with this parasite or on the finding of the organisms. The symptoms may be deceiving, the diagnosis of malaria may be made only to find that a careful blood examination shows the cause to be a bacteremia or a septic endocarditis. It is always well to have blood cultures made in cases where we have a high fever and a high leucocyte count or in suspected typhoid with a low leucocyte count when the true etiology of the trouble is not definitely known. It is an easy matter to take five or ten cubic centimeters of blood from the vein at the elbow. This may be plated out at the bedside and, after incubating, it may be studied and any organism present isolated and determined. The taking of the blood does not cause the patient any particular inconvenience and the satisfaction to the practitioner is great.

The examination of the spinal fluid in acute spinal diseases should be routine practice. The symptoms do not always distinguish between the casual organisms, but the microscope will. It certainly is of great importance to know whether the organism in the case of meningitis is the diplo-coccus intra cellularis or the tubercle bacillus; for in one case, the immediate use of the specific serum may lead to recovery, while in the other, there is little hope. Spinal punctures are not hard to make, in fact while they used to be done by specialist only, they are now made by the general practitioner.

The aid the laboratory has been and is in the diagnosis of the "specific infections" is well known to all. There are no classes of diseases in which the getting of a history is so difficult as in the case of the venereal diseases—for in the words of one of Chicago's genito urinary specialists, "every man or woman with a venereal disease is a liar." The laboratory is very frequently called upon to prove it. The Wassermann test not only affords an aid to diagnosis, but it gives us an idea as to the efficiency of our treatment. It is true that it has fallen a little from grace because untutored minds have been allowed to make the test; but, when done properly, it is one of the most reliable tests we have. If some means could be devised through which inexperienced men could be prevented from mak-

ing the test, its percentage of accuracy would be far greater than usually reported. Syphilis is much more common than we used to believe. The ready access to the city via the interurban has brought the country boy in contact with the disease and he has carried it to the country town. The more frequent use of the Wassermann test has cleared up many of the so-called hidden infections. There is no disease which appears in so many guises and there is no disease which yields so readily to proper treatment even if a promise of a cure is questionable. It invades the vascular system, it is often mistaken for tuberculosis, it invades the lung, it taxes the skill of the osteologist. Not long since, I was looking over the records of one of our psychopathic laboratories and what was my surprise to find that 25 per cent of the weakminded children who came for treatment or guidance gave a positive Wassermann test. None of these children showed any of the stigmata of syphilis. Like results are being recorded throughout the world. How essential then that this test should be utilized by the physician in the country town as well as in the large city. Is it not possible that many of these youngsters who are thrown into a semi-prison need not so much discipline as they need mercury.

The laboratory is doing much to clear up the so-called latent infections. The work of Rose now, Bunting, Davis, Billings and others have opened up a great field for study and research. If what these men claim is true, many of the chronic diseases have their origin in infective processes somewhere in the body. The eradication of these infective areas is the rational means of producing a permanent cure. The localization of the area and the identification of the causal organism is the work of the laboratory.

Autogenous vaccines have done wonders in some cases. Before using them, however, one should at least be sure of the causal organism. A man has no more right to shoot a syringe full of mixed vaccines or various toxins, such as the phylacogen, than he has to inject so many unknown drugs. Bacterial toxins are often much more powerful than drugs and why should the injection of one be tolerated and the use of the other condemned. It is the ignorant use of vaccines that has caused this rational biological method of treatment to be looked down upon in some quarters. Many physicians forget their scientific training and allow themselves to be imposed upon by agents of houses whose knowledge of the product they sell consists of those things which aid them to dispose of the goods. The laboratory should come to the aid of the

physician. The organism causing the trouble should be isolated, and from the strain isolated from the patient, the vaccine should be made. Stock vaccines while helping in some cases can never usurp the function of the laboratory of preparing vaccines properly.

I might ramble over the whole field of biology and cite lesson after lesson the laboratory has taught, but before closing I wish to call attention to one important means of diagnosis which is not utilized as frequently as it should be.

The diseases of the gastrointestinal tract are not as well understood as they should be. For this reason, we should pay more attention to the digestive process. We can not tell, what goes on from the time the food enters the mouth until it leaves the body. We can, however, get some idea of the efficiency of the gastrointestinal tract by carefully controlling the amount and kind of food taken in, and then carefully analyzing the feces passed.

It can be truthfully said that outside of the fully equipped hospitals and perhaps outside of the offices of a few highly trained specialists, that rarely does a practitioner proceed with the examination of the feces differently than does a layman. He looks at it, perhaps gets the odor, pushes it around with a stick, and that is all. Whether this is the result of the prudishness of the human mind or the repulsiveness of the examination, I am not prepared to say. I am convinced, however, that a careful examination of the feces will throw a good deal of light on gastrointestinal diseases. If we start with the stomach, analyze its contents carefully, and then follow this up with an examination of the feces resulting from a test diet, we shall be able to exclude many conditions even if we have not arrived at a correct conclusion.

It must be admitted that the ordinary tests are crude, sometimes misleading, but they are helpful. The total acidity, free hydrochloric acid, presence of lactic acid, the microscopical examination as well as a careful macroscopical examination, all give us some ideas, the chemical tests add to this, and altogether it is a great help. Usually a high acid content goes with a gastric ulcer and a low acid content with a malignant growth, but unfortunately this is not always the case. Sometimes ulcers are found in the absence of acid, and cancer may thrive in the acid stomach. These exceptional cases are not common, however, and to follow the rule will make one right in the greater number of cases, and in the cases which prove wrong he can be forgiven. Care must be taken in giving and in the extraction of the test meal if the best results are to be

obtained. Careless work makes any test, no matter how reliable it may be in safe hands, absolutely valueless.

The examination of the feces gives us two things. First it gives us an idea of the rapidity with which the food passes through, and secondly it gives us an idea of the physiological changes the food has undergone. These together give us a pretty good idea of the condition of the gastrointestinal tract itself, for the state of the organs can be pretty well inferred from the manner they perform their function. If starch is not properly digested, it appears in the feces, undigested fats reveal themselves, and the proteins not taken care of may be found in the fecal contents. Parasites, their eggs, blood or any other pathological findings, will not be overlooked while studying the food remains. In order to make fecal examinations valuable, however, it is essential that we know the nature, amount, and condition of the food as it enters the tract. We therefore give the patient a test meal, keeping him on this until we are sure that the fecal contents come from the food given. Knowing the kind and the amount of food given, and having what is left undigested in the feces, we can get a pretty good idea of the condition of the tract and its secretions. The feces should be examined macroscopically, microscopically and chemically. The macroscopic examination, properly made, tells us a good deal. It gives us the color, odor, and consistency. It may reveal tape worms, blood, pus, and undigested food. What our unaided eye does not reveal the microscope may help us to find, and the test tube again helps us out. Time will not permit me to go into detail, but certainly better diagnosis would be made if more respect were paid to these things.

We might go on enumerating the numerous contributions the laboratory has made both good and bad. We might cite their limitations for all tests are limited. The careful clinician depends not upon one test or method. He utilizes his eyes, his ears, his finger tips; he brings into activity the test tube, utilizes animals when necessary, and above all uses his brain to correlate and interpret all of these objective findings, then finally arrives at a good sensible diagnosis of the case.

I wish to emphasize the importance of laboratory work with all its limitations. I want to emphasize a closer relationship between the clinician and the laboratory worker. Each method of examination has its merits, each its defects. No one finding can make the diagnosis for us. All methods should be used for the benefit of the patient and the limitations of the one will be

pointed out by the efficiency of the other. Many of the failures laid up to the laboratory are not due to the inefficiency of the tests but to the fact that the brain does not interpret them properly. Some physicians on finding a patient in coma, examine the urine and because albumin is present conclude it is a case of uremia. They forget that many things which may cause coma also produce an albuminuria even more marked than is found in the most advanced cases of nephritis. Fortunately all uremic cases have a history. Every glycosuria is not a diabetes nor do albumen and casts always spell nephritis. These are but links in the evidence, and the diagnosis is made by welding all these links together.

The laboratory must be brought in closer relation to the patient. The director of the laboratory should hear the history and know the physical findings. The laboratory and the physician must consult one with the other. The laboratory must help us use our brains, not rob us of them. The laboratory director should not be a mere technician trained to handle tubes, but he should be able to study men as well. The laboratory man should be at least as familiar with clinical medicine as is the average physician. He should not limit his field of research to the test tube, but he should transfer his test tube findings to the patient and correlate his laboratory findings with the findings of the surgeon or the internist. The laboratory man should be in the highest degree a consultant whose service is equal to that of any other specialist. There is no reason why the laboratory should rob a man of his interest in man. There is no reason for the practitioner to be ignorant of laboratory methods. Both are needed. Each should pay its respect to the knowledge and skill of the other, and let us hope that time will equalize the financial side.

RESEARCH HOSPITAL IN CONNECTION WITH THE MAYO CLINIC

Ground has been purchased adjoining the Mayo Clinic for the erection of a hospital of 100 beds to be used in connection with the Clinic for the study of obscure cases before deciding definitely on the course of treatment. It is not expected that the new hospital will, in any way, take the place of the hospitals now in operation. St. Mary's Hospital will continue to receive the surgical cases and the Colonial the medical cases after the various problems have been worked out at the proposed hospital for research. The new building does not mean any material change in the work at the Mayo Clinic, mainly an increase in facilities.

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HOMEOPATHIC DEPARTMENT IN THE UNIVERSITY OF CALIFORNIA

According to Science, the Hahneman Medical College of San Francisco has offered to convey all its property to the University of California, and has proposed to cease separate instruction. Instead, two professorships are to be maintained in the University of California Medical School in homeopathic materia medica and in homeopathic therapeutics, the financial provision therefore to be made, for the next two years, by the homeopaths. The instruction in homeopathic materia medica and homeopathic therapeutics will be offered as elective courses. In all other respects students wishing eventually to become homeopathic practitioners will receive exactly the same instruction in the University of California Medical School as its other students.—(Medical Record, July 17, 1915.)

The action taken by the Homeopathic Department of the University of California, above referred to, is to be highly commended by all interested in medical education and shows a progressive spirit that should be emulated by all of our state universities having medical departments that have not already abandoned the plan of duplicating departments of surgery. Surgery, like anatomy, must of necessity be the same in all schools of medicine. Individual opinions on certain things may differ irrespective of the name the school may bear, but not to the extent of making different departments necessary, covering the same principles. This was felt to be true in the University of Iowa several years ago, and a reorganization of

the medical department would no doubt have occurred at that time had it not been for the legislative fiasco that followed the laudable attempt on the part of the Board of Education to remedy the duplication of work in the several state educational institutions which the Board was created to accomplish. The demoralization of the Board, caused by this fiasco, no doubt set back educational matters in Iowa many years, but it is sincerely hoped that the Board of Education will soon gather courage enough to do in Iowa what has been done in Minnesota and California, abolish Homeopathic Surgery and retain Homeopathic Materia and Homeopathic Therapeutics as optional branches of medicine for those who desire to take them. This would be clearly a gain to homeopathy in the matter of teaching efficiency, and to the state in the matter of economy, which we trust our homeopathic friends will be quick to see and act on promptly in their own interests. During the past year there were in the homeopathic medical department of the Iowa University nine students and two graduates. These figures show more clearly than any argument the weakness of the department and how little homeopathy has to stand on. If on the other hand the homeopathic students belong to the general body of medical students and specialize in the particular branches of their school, their weakness will not be so apparent. It is hardly to be expected that the most desirable students, having homeopathic sympathies, will be willing to classify themselves with so small a group, however select it might be, and it is quite probable that homeopathy loses some students it would otherwise gain.—(Editor.)

FIRST AID TO THE INJURED

The safest first aid to the injured, it may be said, generally is, to let him alone, so far as treatment is concerned, until he is placed where well planned measures can be undertaken for his relief. It is well understood by surgeons that the character of the first treatment given an injured person frequently determines the final result. In civil practice, the weak sentimentalism prevailing among laymen often results in loss of life or limb or material increase in pain and suffering and in prolonging disability. In cities a well trained ambulance service is provided and the injured person is quickly conveyed to a hospital where a surgeon and appliances for a deliberate and skillful treatment are found. The ambulance service is familiar with the means to be employed for as comfortable as possible transportation, and the results are infinitely better than in large or small

towns where the service is conducted on a sentimental basis. We have had a large opportunity for observation under the latter conditions, particularly in an accident railway service. It seems quite as difficult to impress a local railway official with the idea of efficiency in these matters as an ordinary layman who only occasionally comes into relation with accident cases.

The men generally who are in charge of the ambulance know what to do and promptly convey the patient to a hospital or to his home and the half dozen or more doctors who have been hastily summoned, hurriedly follow if they can find out where the injured person has been taken. We have, ourselves, in railway cases, when we reached the place of accident, spent an hour in finding out where our man has been taken or have found an ambitious curbstome doctor, who is always looking for such cases, undertaking some procedure that a surgeon could not approve, and it may be to the serious loss of all parties concerned.

Emergency surgery, or the surgery of urgency is a special branch of surgery and often requires the highest skill and the largest experience to secure the best results or the results the injured person is entitled to, and yet the uninstructed and irresponsible layman feels that any legally qualified doctor will do and that it is better that the wrong thing should be done immediately than that the right thing should be done after a little delay.

The frequency of accident and injury in American industry or upon American railways became a reproach to our methods of efficiency which began to be noted by observers of European methods; the cost in human life was too great. The steel companies were perhaps the first to discover the great waste of life in American industries, and began the safety first propaganda, which was soon followed by the Chicago and Northwestern Railway under the direction of R. C. Richards, the results of which we from time to time publish in these pages. Shortly following the organization of Mr. Richards' work on the Northwestern, all the great railway companies took up the safety first propaganda until the legend "Safety First" was placed above the door of every shop, factory and railway in the country. Other men, considering the question from another point of view, knew that with all the benefits of "Safety First", men would surely be killed and injured, and a second propaganda was started of first aid. Prior to the safety first movement, several chief surgeons of railways made well directed efforts in the direction of first aid,

notably Dr. Jones of the Union Pacific, but failed of marked success because of only spasmodic cooperation of operating officials; it needed the safety movement first. The Rock Island, under the advice of its Chief Surgeon, Dr. S. C. Plummer, cooperated with the Red Cross and started a first aid program. A little later Dr. C. W. Hopkins, Chief Surgeon of the Northwestern, started a more comprehensive program of first aid by holding meetings at various points along the line, at which operating officials, claim agent and company surgeons were invited to consider questions of cooperation concerning the disposal and care of injured persons, who for the present at least, must fall victims to the necessities of transportation, notwithstanding safety measures. These twofold welfare movements on the part of organized combinations of industrial workers must have their influence on less well organized industries and on legislation affecting workmen's compensation and on the organization of hospitals provided with facilities for the economic and efficient care of industrial workers.

THE MOTOR OPERATING CAR

After a short life the motor operating car seems to have been abandoned by the British Army. A more practical method of treating wounded soldiers is to establish Casualty Clearing Stations some five to seven miles behind the trenches. In the operating theaters connected with these stations, better conditions can be secured for the cases needing early operations, and the general results are better. These Casualty Clearing Stations can be reached in an hour if the wounded soldier can be removed from the trenches where the First Aid Post is located. It often happens that there is danger to the motor power of the motor ambulance, and horse or field ambulances are used in the immediate vicinity of the trenches, and as soon as possible, transferred to the motor ambulance and quickly transported to the Clearing Station.

A consultation of British army surgeons resulted in establishing First Aid Posts at the trenches. Casualty Clearing Stations at a safe distance, and base hospitals. The Casualty Clearing Station is in fact an emergency hospital where emergency operations are performed and the patient treated until he can safely be removed to the Base Hospital.

The Steel Company at South Bethlehem, Pa., have had a similar plan in operation for some time.

WAR BABIES

The British Medical Journal declares that most of the stories in regard to War Babies are untrue. So many sentimental stories were started as to seriously disturb the English people and create the impression that the excitement of war had destroyed in considerable measure British morality. So much feeling was excited that Archbishops of Canterbury and York together with a few others, agreed that a committee with Mrs. Creighton at the head, should be formed to investigate the subject.

According to the British Medical Journal, the report of the Committee on June 9th was "The general conclusion at which it arrived was that the reports that had been circulated as to the large number of 'war babies' were without foundation." The committee admitted that there had been some cause for anxiety on account of drinking and the low morality, giddiness and foolish excitability among young girls, which "often led to undesirable conduct". We have seen this in our own country but without a fear that American morality was being undermined.

The British Medical Journal says: "We must agree that the results of the investigations of Mrs. Creighton's Committee show that there is very little increased illegitimacy owing to the war, and that all the excitement, the disapproval on the one hand and the sentimental commendation on the other have little foundation in fact."

MANUFACTURE OF SALVARSAN PRODUCTS IN ENGLAND AND FRANCE

On April 7th, 1915, a communication was made on behalf of the Medical Research Committee to the British Medical Journal with regard to the nature of the control which the Medical Research Committee, at the request of the Board of Trade, has been exercising during the present emergency over the French and British preparations of salvarsan which are issued for sale in England.

"It was then announced that the committee were satisfied that the products tested biologically under their direction were not inferior, in safety or in efficacy, to the original German preparations. It may be remarked here in addition that satisfactory results of clinical trials, as well as the results of the laboratory tests for toxicity, were in the hands of the committee before the issue of these products was authorized."

"The preparations in question have now for some months been available for use by the medical profession in this country, (England) and it appears desirable to the committee that they should seek

an opportunity of collecting from those who have had and are now having actual experience of these British and French salvarsan products as complete a record as possible of the results of their practical application."

WOUND INFECTION

Col. Sir E. A. Wright, M. D. in an address before the Royal Society of Medicine, and published in the *Lancet* for April 24th, calls attention to some very important facts in relation to the antiseptics of projectile wounds. At the present time, as is well known, British surgeons are having very important problems before them touching the best management of infected wounds. There is a great deal of confusion in the minds of many medical men as to the possibility of thorough sterilization of wounds. Many surgeons will probably lose sight of the fact that the microbes are frequently inaccessible, and that they have been carried deep into the tissues and lie on the inner walls of a torn and ragged tract, and that tract is blocked by blood and muscle. Dr. Wright shows that the best that can be done under the existing conditions would be incomplete sterilization, and that in a few days the infection would be as bad as the infection before the sterilization process was attempted. He also calls attention to the fact that the figures given for antiseptic action on microbes in watery solution, can not be applied to conditions as they exist in infected wounds. The efficacy of the formula may be determined so far as skin surface and instruments are concerned. In practically every other case the conditions would be entirely different.

Dr. Wright has shown in connection with substances like creosote and guaiacol, that serum and pus exert a great "quenching" power upon antiseptics, and to show to what degree pus inhibits the action of an antiseptic, he employed nine volumes of the antiseptic solution to one of pus from the infected wound, and leaving the antiseptic in application for ten minutes, a strength of one in forty carbolic acid, one in four hundred of bin-iodide, and one in five hundred of tincture of iodine, all failed to sterilize. Assuredly the really formidable difficulty in connection with the sterilization of the wound is that of getting sufficient penetrating power to deal with these sheltered microbes.

"Now the ordinary antiseptics which we employ in wounds have as good as no penetrative power, and though it is possible to undertake comparative experiments, and, as an interesting academic exercise, to determine for a series of antiseptics how far their antibacterial influence may extend in agar

or any other artificial medium, academic exercises like this ought not to divert our attention from the fact that there is not, among all the competing antiseptics, one which can penetrate into and sterilize the walls of an infected wound. In fact, if it were ever to come about that an antiseptic sterilized heavily infected wounds, that would be a matter to announce in all the evening and morning newspapers. Nor is it matter for surprise that antiseptics should not be able to penetrate into granulation tissue. Let us call to mind the fact that this is composed of continuous layers of cells; that the cell wall is a quasi-impenetrable membrane; further, we have in the granulation tissue a very developed system of capillaries, capable of absorbing and carrying away any antiseptic that might penetrate; and lastly, that we have also in the granulation tissue an outflowing lymph current."

The conclusion reached by Sir A. E. Wright is that the antiseptic treatment of wounds really has very little effect on the production of pus because of the fact that only a comparatively small number of microbes are destroyed, and that they rapidly develop and the wound is again shortly in the same condition as in the first instance, and nothing has been really gained, and that the real treatment is what Dr. Wright calls treatment by physiological methods, that "where infection has spread diffusely in the tissues, free incision must be made"; and where these incisions pass through infiltrated tissues they must be carried from sound skin to sound skin, and all the way down to the healthy structures underneath, and hot fomentations should afterwards be applied, and where there is an abscess sac or a closed cavity containing pus, this must be laid open and an outlet for the discharge be provided, and when amputating through infected tissues unrestricted drainage must be provided, either by leaving the wound unsutured or by cutting the limb squarely across at the same level and dispensing entirely with flaps.

Dr. Wright does not favor the use of drainage tubes as they do not really keep down bacteria in walls of the abscess cavity but rather tend to irritate. The essential points in the treatment of infected wounds are free incisions down into infiltrated tissues, hot fomentations, unsutured operation wounds, relying on the freest drainage and the assistance of leucocytes, thus when we have learned how to regulate the outflow of lymph, and to control emigration and phagocytosis and make an end at once of antiseptic washings and injections, as it will always be impossible to sterilize a wound within a space of a few minutes, we will always allow time for the leucocyte to find the microbe and the digestion of the microbe by the phagocyte.

SIR W. WATSON CHEYNE ON THE TREATMENT OF WOUNDS

Sir Watson in May 8th, 1915, No. of the *Lancet* undertakes to correct a misapprehension which might arise from the reading of a paper in the previous No. of the *Lancet* by Sir Almoth Wright in relation to antiseptics in the treatment of wounds. Sir Watson agrees with Sir Almoth in what he says in relation to badly infected wounds and insists that in highly septic wounds as they reach him at the base hospital in "a stage in which antiseptics as ordinarily employed are of no avail, there is a preceding period, which he does not come across in which the septic process has not yet taken root in the wound, and in which it may be eradicated by the proper use of antiseptics." Sir Watson Cheyne particularly desires to draw attention to the fact that while it is true that antiseptics are of little or no value in the badly infected wound, this should not be understood as applying to the early treatment of wounds. Unfortunately, immediate or even early treatment can not be carried out in the trenches in the great majority of cases on account of the conditions of warfare existing there.

It appears that the best that can be done in the infected cases is free drainage and hot antiseptic dressing—as boric acid or normal salt solutions, and if amputation becomes necessary, to give little attention to the formation of flaps, even a square across amputation.

MALPRACTICE IN TREATMENT OF OBLIQUE FRACTURE OF CLAVICLE

The following decision rendered by the Supreme Court of Colorado again illustrates the risk the surgeon assumes in treating fractures. The Court admits that "all the surgeons called as witnesses testified that the method employed was the usual and proper one to treat such a fracture," and that the method generally used is not negligence; but goes on to say that "there was substantial testimony from which to deduce one of two conclusions; either the defendant did not place the fragments in proper place in the first instance, or, if he did, he failed to exercise ordinary care from time to time to ascertain whether they remained in place and in keeping them in proper position". What this testimony was is not stated and it is fair to assume that the deformity itself was sufficient evidence in the minds of the Court to establish negligence. This comes very near to the point of assuming that an unsatisfactory result is *prima facie* evidence of negligence.

"The Supreme Court of Colorado affirms a judgment in favor of the plaintiff for \$650 damages for alleged malpractice in the treatment of an oblique fracture of the clavicle. The court says that, briefly, the defendant's treatment consisted in putting the ends of the bone in place and bandaging and holding the arm and shoulder in a position with the aid of a fulcrum, the object of this treatment being to prevent overlapping. All the surgeons called as witnesses who testified on the subject stated that the method employed was the usual and proper one to treat such a fracture. Employing the method to reduce a fracture generally recognized by surgeons as proper is not negligence. But there was substantial testimony from which to deduce one of two conclusions; either the defendant did not place the fragments in proper place in the first instance, or, if he did, he failed to exercise ordinary care from time to time to ascertain whether they remained in place and in keeping them in proper position. In the absence of a special contract, the law implies that a surgeon employed to treat an injury contracts with his patient that he will exercise reasonable and ordinary care to accomplish the purpose for which he is employed. He does not warrant a cure and is not responsible for want of success, unless it results from a failure to exercise ordinary care, or from want of ordinary skill. True, as stated in many well-considered cases, the failure to exercise ordinary care in treating a fracture is not established by proof of the result alone, but must be shown by other evidence. The original verdict was for \$1,000, but, while a motion for a new trial was pending the plaintiff filed a remittitur of \$350. The court does not think that the verdict was excessive. That an operation was necessary in order to relieve the plaintiff from the condition he was in as a result of the overlapping of the fracture must be conceded. The surgeon who performed the operation testified that he made an incision down to the bone, and then by the use of instruments refractured it where the union had taken place, made a hole in each fragment, and inserted a silver wire, and wired the bones together so that they would remain in place and prevent overlapping until a new union was effected. Considering the pain and suffering, expense, and loss of time this operation necessarily entailed, and also the fact that there was sufficient testimony from which it could be inferred that the defendant had not exercised the degree of care the law required in treating the fracture, it could not be said that the verdict was excessive, or in any sense the result of bias or prejudice. The trial judge did not find that the award of \$1,000 was excessive. He did not direct that the verdict would be set aside unless the plaintiff consented to remit the sum of \$350. The reduction was voluntary on the part of the plaintiff. The testimony was sufficient to sustain the award of the jury."

PROGNOSIS OF FRACTURES OF THE PELVIS

Steinthal cites the figures of the Austrian insurance companies as to fractures of the pelvis. While the mortality is less than one percent, the disability in bony union lessens the earning capacity of the individual from 10 to 50 percent. In cases of fibrous union the injury to the earning capacity is usually as high as 60 percent.—(Annals of Surgery.)

UNION MEDICAL COLLEGE PURCHASED

The China Medical Board of the Rockefeller Foundation announced on June 15 the purchase of the University Medical College at Peking for \$200,000. The college, which is the largest hospital and medical institution in China, has been owned by the London Missionary Society and supported jointly by six missionary organizations. A commission will sail for China early in August to study the present medical conditions in that country and make investigation with especial reference to guide the future action of the board in China.

ANTIVIVISECTION IN CALIFORNIA

An incident highly instructive in its bearing on the struggle to preserve freedom of medical research in the United States occurred during the recent session of the California legislature. The antivivisectionists introduced a bill providing for a commission of inquiry into laboratory conditions in the state. As usual, the advocates of the measure supported their claims by lurid tales of atrocious cruelty to animals at the hands of experimenters, and they took care that the proposed commission should consist largely of persons known to be antagonistic to the use of animals for experimentation. Such legislation has been repeatedly advocated in Eastern states, but has always been refused serious consideration by legislative bodies. The partisan character of the proposal offered in California was apparently recognized, but, instead of objecting to it on that ground, interested members of the legislature suggested a compromise. A substitute measure authorizing officers of humane societies to inspect and supervise laboratories was introduced, and with very little discussion it passed both houses. The ease with which a measure of this character can receive favorable legislative attention is surprising. The bill as passed would give to any antivivisectionist, who wished to form a humane society with himself as president, the right of unlimited search without warrant—a right not possessed even by the constituted officers of the law—the police, the constables and the sheriffs! Furthermore, the inspectors thus provided for would be persons without any required training whatsoever, and they would be placed in judgment

over highly trained laboratory workers who are investigating the most perplexingly developed structures and the most involved and entangled processes in nature. One needs only to glance at antivivisection literature to learn how readily the untrained mind grossly misinterprets the facts of biologic observation. Inspectors wholly lacking insight into the extraordinary complexities of medical research are absolutely incompetent and, if permitted to act, could prove only their own capacity for blundering. The harassing of medical investigators by perpetually classing them with suspected criminals and subjecting their labors to the stupid meddling of suspicious and ignorant fanatics would have been disgraceful. Fortunately, says The Journal of the American Medical Association, the bill did not become law. The words of the governor of California, explaining his refusal to sign the bill, are pertinent in every commonwealth where antivivisection legislation is attempted:

"The antivivisection law is so positively declared illegal by the attorney general that even were I disposed I could not sign it. I may add that the laws of the state of California for the prevention of cruelty to animals and the punishment of those guilty are plenary. Full authority is given to the humane officer, under the law, to obtain search warrants, enter premises, and gather such evidence as he may suspect exists. With our drastic laws, there can be no excuse for those who insist cruelties are practiced upon animals for permitting these cruelties to continue or those practicing the cruelties to go unpunished."

THE USE OF WORDS

The subject of the Chairman's address before the Section on Practice of Medicine at the late meeting of the American Medical Association at San Francisco, by Dr. Thomas McCrae, Philadelphia (Journal A. M. A., July 10, 1915), was the use and abuse of words. He called attention to the many disputes which have arisen where the use of words was involved, and held that we should use a rigid standard, especially in medical matters. Many people have their own peculiar conceptions of terms, and words are given attributes they do not possess. For example, the word pneumonia involves quite a variety of conceptions in the minds of different persons. In a meeting of medical teachers ten years ago the terminology of the diseases of the chest was discussed and the varied meanings attached to the same term brought out in the discussion surprised everyone. Much difference of opinion will be found in the use of the words bronchial and tubular, and students have been graduated for years with erroneous ideas as to the meaning of a certain term. Many illustrations are given by McCrae as to the misuse of the names of diseases and symptoms. He says if one wishes to find confusion worse confounded let him read an article in French or German dealing with arthritis. What

the term rheumatism means in many of these no one but the author can tell. The use of the word rheumatism leads to careless diagnosis, and the list of diseases and conditions which have been classed under this head is a long one. The word phthisis is another misused term, as well as Bright's disease, asthma, bilious and biliousness, typhoid, hysteria, etc. (all of which have numerous meanings), and many others which need to have some attention as to clearness in regard to their use. For those who are teachers the duty of accuracy in the use of words is important. How can definite ideas be conveyed by indefinite terms? For proper therapy it is equally important to have clear ideas. Treatment directed to a name is not likely to help the patient. When so much depends on the choice of terms is it not worth while to use them with care and precision?

BOOK REVIEWS

THE TREATMENT OF FRACTURES

New (8th) Edition. Enlarged. With notes upon a few common dislocations. By Charles L. Scudder, M. D., Surgeon to the Massachusetts General Hospital, Associate in Surgery at the Harvard Medical School. Octavo Volume of 734 pages, with 1057 Original Illustrations. 1915. W. B. Saunders Company, Philadelphia and London. Price, Polished Buckram, \$6.00. Half Morocco, \$7.50.

Scudder has since the appearance of the first edition, been a popular work with the medical profession, and now for several years the treatment of fractures has been a favorite subject for study. At one time, brilliant operative undertakings seemed to overshadow the patient watchings of the treatment of broken bones and led to results—while perhaps not worse than in other days—did not reach the degree of perfection the public felt from the advanced position of surgery, the surgeon ought to secure, and much litigation was the result.

The last edition of Scudder now before us is beautifully illustrated and the general surgeon-general practitioner—may easily discover at a glance that this is the book he wants. The work is so uniformly high grade that the reviewer is at a loss to know where to begin. After saying that the mechanical make-up of the book comes to the standard of the Saunders Company, we may mention a few special fractures: for instance, fractures of the pelvis. When we come to realize that the earning capacity of a workman with a fractured pelvis with bony union is reduced from 10 to 50 per cent and with fibrous union as much as 50 to 60 per cent, we can appreciate the importance of an accurate diagnosis and a most efficient treatment. In fracture of the pelvis, Dr. Scudder is brief, but points out the facts that ought to guide the surgeon. He calls attention to the importance of ascertaining the condition of the urethra, which is so liable to in-

jury. He also emphasizes the importance of taking time enough to determine what has taken place and the absolute importance of a careful radiographic examination to ascertain the extent of the injury and that no attempt at reduction should be made until the X-Ray plate is made.

Considerable space is given to fractures of the clavicle. Deformities are so noticeable that if they pass a certain degree much dissatisfaction is felt by the patient. The only difficulty in treating these fractures lies in applying satisfactory dressings. The surgeon will find in this book beautiful illustrations of how to adjust certain standard methods of treatment.

Considerable space is given to fractures of the humerus and the accidents that may occur to the musculo-spiral nerve, especially if the fracture happens at or below the middle third. Scudder gives the number of musculo-spiral paralysis at from 4 to 8 per cent of all fractures of the humerus. Illuminating illustrations are given of the method of applying retention apparatus in the many forms of fracture of this bone.

Every practitioner approaches the treatment of fractures involving the elbow joint with some apprehension as to the final results. Much helpful advice is given to the methods of diagnosis and treatment of these fractures. In medico-legal practice we have come into relation with several cases involving fractures of the lower end of the radius and of injuries to the carpal bones which were not properly appreciated by the surgeon, and damage suits have been started. Scudder has considered these injuries particularly from the point of X-Ray examinations.

In the treatment of fractures of the hip, Scudder thinks that the traction method is not the best and prefers the Thomas or Whitman fixation method which give a larger per cent of union as they accomplish more complete immobilization. These methods are fully described. Scudder also believes that in cases of impacted fractures of the hip with deformity, the impaction should be unlocked and treated as a non-impacted fracture, which we believe is the best surgery in a certain proportion of cases. Many methods of treatment of fracture of the shaft of the femur are given, all of which requires watchful care; the consideration is a complete reduction and maintainance of length and proper line and a good result is one inch or less of shortening. Solid union in 83 per cent occurs in nine weeks in healthy persons under 50 years of age; but the fact of delay of solid union in 15 per cent should be taken into serious consideration. After an average age of 58, perfect functional results may not be expected. In early childhood, the best results may be expected from vertical extension, the body resting on a Bradford frame. As soon as union is firm a permanent plaster spica dressing may be applied and the patient allowed to get about on crutches.

The chapters on operative treatment of frac-

tures and X-Ray examinations are of interest only in so far as relates to great care in the technic of direct bone fixation and the care in X-Ray interpretation.

PROGRESSIVE MEDICINE

A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hars, M. D. Assisted by Leighton F. Appleman, M. D. Price, \$6.00 per annum. Lea & Febiger, Philadelphia and New York.

Number 2 of Volume 17 is of unusual interest. The first section is by Dr. W. B. Coley of New York, who presents a review of the literature on hernia. First of all a review of the views of Sir Victor Horsley and Dr. A. J. Ochsner on the treatment of hernia in infancy and childhood. Sir Victor takes the position that all hernias in childhood should be operated. This, Dr. Coley thinks, is too radical, and bases his objection on the after history. 15,000 cases treated at the hospital for ruptured and crippled, New York, by trusses, of which 50 per cent were cured, and cites Ochsner who holds that 95 per cent of young children with hernia are cured by proper treatment without operation. Another thing in relation to hernia, Dr. Coley calls attention to the disadvantages of non-absorbable material for sutures.

After reviewing a considerable amount of literature on undescended testicle, Dr. Coley comes to the conclusion that nothing is offered better than the operation devised by Dr. Bevan.

Surgery of the Abdomen Exclusive of Hernia, is reviewed by John C. A. Gerster, M. D., New York. The subject of transverse and longitudinal abdominal incisions are briefly reviewed. Wartheim, Sick, and Druner, advocate transverse incision, while Kuttner and others prefer longitudinal incisions. Abdominal Wounds in War Times;—views in regard to operative treatment appear to differ according to the observer's experience, that is at the Casualty Clearing Hospital or at the Base Hospital. At the Clearing Hospital, operative treatment is advocated with results about as good as in civil practice, while those who live to reach the Base Hospital, get well without operation.

A vast amount of literature is reviewed on ulcer and cancer of the stomach and duodenum. Nothing particular appears except that the professional world is getting nearer to the views promulgated at the Mayo Clinic, which are so well known in this country. Concerning cancer of the stomach in the young, Smithes collected from the Mayo Clinic and the Ochsner Clinic 727 cases of carcinoma of the stomach, of which 16 occurred in patients under the age of 31 years. The discussion on ulcer and cancer of the stomach covers too wide a range to be profitably reviewed in the Journal, and the subject as presented in this number of Progressive Medicine is recommended to the reader as present-

ing the last word from many sources on this interesting and very vital question.

Under the head of small intestines, Gerster cites two cases of spastic ileus. A case of this class came under observation 20 years ago and left an interest which has not faded. Forty pages are devoted to large intestines, mostly to colonic stasis and cancer, a very interesting abstract of the work of numerous observers.

Gynecology by Dr. John G. Clark. Cancer and non-cancerous conditions of the uterus occupy 50 pages of abstracts, mostly from German sources. The Fallopian tubes and ovaries come in for 40 pages more.

A valuable section of reviews touching the female urinary system, taken mainly from American sources, fills 20 pages. While the first 300 pages are devoted to subjects having surgical treatment ultimately as a means of relief, the internist is equally interested because the line between medical and surgical treatment cannot always be properly drawn without the aid of the physician and surgeon.

The section written by Dr. Alfred Stengel is almost entirely the field of the internist and pathologist. Blood conditions, as leukemia, Hodgkins disease, pernicious anemia, hemolytic jaundice, splenic anemia, and Banti's disease and hemorrhagic diseases constitute the principal part, to which may be added experimental researches, on the thyroid the parathyroid, the thymus, the adrenal and the pineal glands. Diabetes mellitus, govt, and scurvy come in for brief consideration.

The review of the literature on Ophthalmology by Dr. Edward Jackson concludes this number of Progressive Medicine.

Scopolamine Morphine Anesthesia. By Bertha Van Hoosen, M. A., M. D. (The House of Manz) Chicago.

Dr. Van Hoosen presents in this work a strong argument for this comparatively new method of anesthesia, basing her conclusions upon the results of work done during the past ten years, comprising some 5000 cases, and comparing these results with those from the older anesthetics. A chapter is devoted to the pharmacology, toxicology, and physiological action of scopolamine-morphine; comparing the isomeric alkaloids, hyoscin, and scopolamine, and showing the necessity of using only a chemically pure levorotary scopolamine in a freshly prepared solution. The methods of use for surgical and for obstetrical cases are given, with citation of typical and atypical cases, showing the great amount of study the author has given to her subject. Following is a report of 100 consecutive cases of "Twilight Sleep" at the Mary Thompson Hospital, Chicago, well illustrated with plates showing the management and surroundings of the patient found to be productive of the best results. It is not in the province of the reviewer to criticise or judge but one observation may be allowable. The physician using this or any other anesthetic must

be willing to study its use and be more or less of an enthusiast to obtain the high class results here reported.

The volume concludes with a chapter on the mental affects of "Twilight Sleep," by Elizabeth Ross Shaw, showing the mental phenomena observed and urging the adoption of a uniform technique for study along these lines, that better conclusions may be drawn from the combined experience of numerous experts.

The excellence of the press-work of this volume calls for special commendation as being a great aid to the easy reading of the subject matter.

THE MEDICAL CLINICS OF CHICAGO.

Volume I. Number 1. (July, 1915).
Octavo of 208 pages. 37 illustrations. W. B. Saunders Company. Philadelphia and London. Published Bi Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

The Murphy Surgical Clinics were received with such wide favor by the medical profession that the Saunders Company conceived the idea of publishing a medical clinic which would present to the practitioner of internal medicine living subjects from the clinic room. There are many advantages in presenting medical and surgical subjects in the form of Clinics, as the American profession has come to know, and while the Clinic cannot take the place of the well worked out text book or the monograph, it can, with great advantage, supplement the carefully digested observations and experiences of the every-day worker in the great field of medicine and surgery.

The publishers of the Chicago Medical Clinics have been able to secure the cooperation of a group of able clinical teachers, who will present periodically clinical cases which will helpfully interpret the practitioner's own clinical work.

In the number before us may be found groups of clinics from Cook County Hospital, Michael Reese Hospital and St. Lukes Hospital, by Charles L. Mix, Charles S. Williamson, Isaac A. Abt, Robert B. Preble, M. L. Goodkind, F. Tice, Walter Hamberger and Ralf C. Hamill. These names are so well known to the profession that no comments are necessary. Some twenty cases are presented, including case histories, diagnosis and treatment in a clear and analytic manner, which will enable the reader to recognize the picture as applied to his own cases.

PRACTICAL MATERIA MEDICA AND PRESCRIPTION WRITING.

By Oscar W. Bethea, M. D., Ph. G., F. C. S., Assistant Professor of Materia Medica at Tulane. Published by F. A. Davis Company, Philadelphia. Price, \$4.00.

This book is well arranged and amply illustrated for ready reference. The work opens with several pages of definitions, then comes Part One, which gives the Official and Unofficial Drugs, their ther-

apeutic action and uses; the arrangement is alphabetical. The first 333 pages are so taken up. The description of each drug is brief and concise.

Part Two takes up prescription writing and is exceptionally complete and pointed. Part Three gives many illustrations of incorrect and correct prescription writing.

The indexes—general and clinical—deserve commendation for their thoroughness.

A very practical and valuable book for the practitioner.

Gynecology Vol. IV of the 1915 Series of the Practical Medicine Series, by E. C. Dudley, M. D., and H. M. Stowe, M. D. Price, \$1.35.

Pediatrics and Orthopedic Surgery Vol. V. of the Practical Medicine Series, by S. A. Abt, M. D., and John Ridlon, M. D. Price, \$1.35. Year Book Publishers, 327 S. La Salle, Chicago.

These two volumes give a complete and concise resume of the literature for the year of 1914. They are very valuable books for ready reference and enable the physician to keep up to date with a reasonable amount of effort. The notes by the editors are pointed and practical.

United States Public Service, under the Supervision of Surgeon General Rupert Blue.

Exercise and Health by F. C. Smith.

Typhoid Fever—A report of a Water-Borne Outbreak in Decatur and New Decatur, Ala. By Paul Preble.

BRIEFER PHYSIOLOGY AND HYGIENE

By Colton and Murbach. D. C. Heath & Co., Publishers. Boston, New York, Chicago. Cloth Bound copies, \$1.00.

The special feature of this new and revised edition gives us the impression that it is easily comprehended by the student and gives him that part of physiology and hygiene which is necessary in the preparatory work for higher education. The chapters on food and the digestive system are especially strong and its contents on the nervous system are unusually clear and helpful.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

Cholera Serobacterin, Mulford (Sensitized Cholera Vaccine). Marketed in packages of three syringes. H. K. Mulford Co., Philadelphia.

Meningo-Serobacterin, Mulford (Sensitized Meningococcus Vaccine).—Marketed in packages of three syringes. H. K. Mulford Co., Philadelphia.

Typho-Serobacterin Mixed, Mulford (Sensitized Typhoid Vaccine).—Packages of three syringes

containing graduated mixtures of killed sensitized bacillus typhosus, killed sensitized bacillus paratyphosus A, and killed sensitized bacillus paratyphosus B. H. K. Mulford Co., Philadelphia, Pa.—(Journal A. M. A., March 13, 1915, p. 909.)

PROPAGANDA FOR REFORM

Waterman's Tonic Restorative.—Examination in the A. M. A. Chemical Laboratory showed this "epilepsy cure" to be a bromid mixture, containing bromide equivalent to 17.6 grains potassium bromid per fluidram. The recommended daily dose of five teaspoonfuls corresponds to 88 grains potassium bromid. Caring little for the health or safety of those who use the nostrum, the promoters advise an increased dosage if required "to stop the 'Fits'," thus leaving the dosage with the user, who is assured that the nostrum is "safe".—(Journal A. M. A., March 6, 1915, p. 847).

Dr. Kline's Nerve Remedy.—This "epilepsy cure" is sold by the R. H. Kline Company, 45-47 E. 20th St., New York City, this being the same address as that of the Lexington Drug and Chemical Company which sends out the Waterman "epilepsy cure" (see above). Examination in the A. M. A. Chemical Laboratory showed this bromid mixture to be practically identical with Waterman's Tonic Restorative (Journal A. M. A., Mar. 6, 1915, p. 848).

Liquid Paraffin (Liquid Petrolatum).—W. A. Bastedo reports the results of a clinical investigation made under the auspices of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry to determine the relative efficiency of the different preparations on the market. Three specimens were sent out: a heavy Russian liquid petrolatum, a light Russian liquid petrolatum and an American liquid petrolatum—being distinguished only by number or letter. From extended trials in hospitals it is apparant that all acted alike. Only slight differences as to palatability were noted by some (Jour. A. M. A., March 6, 1915, p. 808).

Sanmetto.—The Council on Pharmacy and Chemistry finds that Sanmetto is a secret nostrum the exploitation of which is an invitation to haphazard, uncritical therapy and a menace to public health. It is claimed that "Sanmetto is a blending of true santal and saw palmetto with soothing demulcents in a pleasant aromatic vehicle," but neither the identity of the "demulcents" nor the quantities of the other ingredients are given. The recommendations for the use of Sanmetto are unwarranted, absurd and vicious. The advertising claims are likely to induce some physicians to belittle the importance of diseases of the sexual organs and to be content with the prescribing of Sanmetto to the detriment of the patient and the danger of the community (Jour. A. M. A., Mar. 13, 1915, p. 926).

Colchi-Sal.—Colchi-Sal is sold by E. Fougera and Co., Inc., in capsules stated to contain the "active principle" of cannabis indica, colchicin, methyl salicylate and "appropriate aromatic adjuvants". It is recommended in "Gouty and Chronic Rheumatic

Manifestations," "acute cases of Gout," "intestinal autointoxication or dyspepsia," "billious headaches," etc. The Council on Pharmacy and Chemistry found Colchi-Sal ineligible for New and Non-official Remedies because the indefinite character of the "active principle" of cannabis indica made its composition secret, because it was advertised indirectly to the laity, because unwarranted therapeutic claims were made for it, because the name does not indicate the habit-forming cannabis indica and because the composition was held unscientific (Jour. A. M. A., March 20, 1915, p. 1016).

Waterbury's Compound.—Four years ago the Council on Pharmacy and Chemistry reported unfavorably on "Waterbury's Cod Liver Oil Compound." Having been requested to consider again the product, now known as "Waterbury's Compound," the Council found that there was no evidence that it is a substitute for cod liver oil. It held that Waterbury's Compound is advertised with misleading claims and therefore voted that no further consideration be given to it (Jour. A. M. A., March 20, 1915, p. 1016).

Strychnin and Caffein as Cardiovascular Stimulants.—F. H. Newburgh has studied the effects of strychnin and caffein in acute infectious diseases. He finds that strychnin sulphate in medicinal doses does not increase the output from the heart, slow the pulse or materially raise the blood pressure. He concludes that there is no logical basis for its use as a cardiovascular stimulant. Further, he finds that caffein sodio-salicylate, in ordinary dosage, does not raise the blood pressure or slow the pulse. His experiments did not determine if caffein increased the blood flow (Arch. Int. Med. Mar. 15, 1915, p. 458).

Neurilla.—To show how a practically worthless mixture may be exploited by means of ill-considered testimonials, the Council on Pharmacy and Chemistry publishes a report on Neurilla, apparently the sole output of the Dad Chemical Company. Neurilla, according to the manufacturer's claims, depends for whatever virtues it has on two generally discarded drugs, skullcap and passion flower, present in unstated amounts, "aromatics" and 20.3 per cent. alcohol. It is advertised as a "nerve tonic" and is said to be "A Valuable Aid in the Treatment of Fevers, Colds, La Grippe, etc." Inquiries sent to some of the physicians whose testimonials were used to promote Neurilla brought replies indicating these testimonials to have been given thoughtlessly and on insufficient experience. In most cases the writers stated that they had abandoned the use of Neurilla long ago (Jour. A. M. A., March 27, 1915, p. 1093).

Guertin's Nerve Syrup.—This is an epilepsy treatment sold by the Kalmus Chemical Co., Cincinnati, Ohio. Examination in the A. M. A. Chemical Laboratory demonstrated Guertin's Nerve Syrup to be essentially a mixture of several bromides, the bromide content being equivalent to 13.9 grains potassium bromide per fluidram. The recommended daily dose of 4 to 8 teaspoonfuls is equivalent to 55.6 to 111.2 grains potassium bromide. While pos-

sessing all the potency for harm that resides in secret mixtures of the bromides, the purchaser of this nostrum is led to believe that it is harmless (Jour. A. M. A., Mar. 27, 1915, p. 1094).

AN IMPORTANT RULING ON THE HARRISON LAW

"Since the Harrison law went into force, frequent inquiries have been made," says The Journal of the American Medical Association for May 22nd, "as to the quantity of drugs which a physician was justified in prescribing or dispensing. Obviously, the quantity necessary in chronic cases or in the treatment of drug habitues differs materially from the quantity permissible in an ordinary case. The law makes no provision on this point, except to provide in general terms that, whether prescribing or dispensing, all acts coming under the scope of the law must be in good faith and not to evade the purposes of the act. It has been evident that some supplementary ruling on this point would be necessary. The Commissioner of Internal Revenue has just issued a ruling, dated May 11th, which provides that 'where a physician, dentist, or veterinarian prescribes any of the aforesaid drugs (those included in the provisions of the Harrison Law) in a quantity more than is apparently necessary to meet the immediate needs of a patient in the ordinary case, or where it is for the treatment of an addict or habitue to effect a cure, or for a patient suffering from an incurable or chronic disease, such physician, dentist, or veterinary surgeon should indicate on the prescription the purpose for which the unusual quantity of the drug so prescribed is to be used. In cases of treatment of addicts, these prescriptions should show the good faith of the physician in the legitimate practice of his profession by a decreasing dosage or reduction of the quantity prescribed from time to time, while on the other hand in cases of chronic or incurable diseases, such prescriptions might show an ascending dosage or increased quantity. Registered dealers filling such prescriptions should assure themselves that the drugs are prescribed in good faith for the purpose indicated thereon and if there is reason to suspect that the prescriptions are written for the purpose of evading the intentions of the law, such dealers should refuse to fill same.' Under this ruling, physicians must place on their prescriptions, whenever, for any reason, an unusual quantity of opium or cocain is prescribed, a statement of the reasons for such an order. If the physician and patient are acting in good faith, it is difficult to see any objection to such a provision. There will, of course, be some sensitiveness on the part of secret drug addicts to having their weaknesses made a matter of record, but this can hardly be avoided in any plan which will separate the genuine from the spurious demand for these drugs. The ruling of the commissioner will clear up a point on which there has been much discussion. As the journal has constantly stated, the object of the Harrison law is to secure publicity in the use of habit forming drugs and to

effect the prosecution and punishment of all persons using them for illegitimate purposes. Compliance with this ruling will relieve physicians of responsibility and will make the prescribing or dispensing of unusual amounts of these drugs a matter of record.

COMING MEETINGS

The Fort Madison Medical Society will entertain the physicians of southern Iowa at a banquet given in honor of Dr. William J. Mayo, Rochester, Minn., October 8th. The program for this occasion will be:

Surgery of the Spleen—Wm. J. Mayo, Rochester, Minn.

Infection and Immunity—Victor C. Vaughn, Ann Arbor, Mich.

Typhoid Perforations—Richard H. Harte, Philadelphia, Penn.

Gastric Ulcer—Donald C. Balfour, University of Minnesota.

MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS

Indianapolis, Indiana, Wednesday, Thursday and Friday, September 29, 30 and October 1, 1915.

This conference is composed of the states of Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Arkansas, Wisconsin, Illinois, Kentucky, Tennessee, Michigan, Indiana and Ohio and is one of the strongest of the agencies that are fighting tuberculosis.

This meeting promises to be of great interest and it will many times repay the busy general practitioner, who is the first to see the tuberculous patient, for the time spent in attendance.

Doctor, go.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY, DES MOINES, SEPTEMBER 23 AND 24, 1915

All arrangements are complete for the Des Moines meeting.

The Savery Hotel, which is to be headquarters, is centrally located, while the Kirkwood, Elliott, Randolph, Chamberlain, Wellington and the Des Moines Club are all conveniently located.

The Armory, where the scientific meetings are to be held, is only a short distance east of the Savery. It is situated in the Coliseum on the river front.

The arrangement committee, Dr. R. A. Weston, chairman, has planned to make every hour a pleasant one, from the time we reach this city, until we leave for home—and the ladies will be nicely entertained, too, under the guidance of Mrs. F. E. V. Shore and her committee, a theatre party, tea at the Country Club, and an auto ride being on the program.

On Thursday noon the Chamber of Commerce will entertain at luncheon; on Thursday evening an informal dinner will be served at the Savery Hotel, which is headquarters. After dinner we will listen to Dr. Jno. B. Murphy and Dr. J. A. Witherspoon,

who will deliver the orations in Surgery and Medicine. Dr. Ryan will give the presidential address, and then a "smoker" will round up the evening.

In addition to our evening orators, we will have papers from Drs. Chas. Lyman Greene, St. Paul; Frederick Gaertner, Pittsburgh; Geo. W. Crile, Cleveland; Samuel Robinson, of the Mayo Clinic—all men of national and international reputation.

On account of the long program it is expected there will be an extra session on Friday evening, and on Saturday there will be a series of clinics in the Iowa Lutheran, Mercy and Methodist Hospitals, to which all are invited.

Members should make plans to remain over Sunday, which could be pleasantly spent in Colfax Springs, where the society met last year.

Following is the preliminary program:

Cancer of the Pylorus, Geo. W. Crile, Cleveland.

Some New Facts in the Physiology of Asthmatic Dyspnea, Orville H. Brown, St. Louis.

Some Etiological Factors in Hemorrhagic Diathesis, William W. Duke, Kansas City.

Vascular Disease in Mental Disorders, Frank Parsons Norbury, Jacksonville, Illinois.

A Symptom in Extrauterine Pregnancy, H. J. Lenhoff, Lincoln, Neb.

Roentgen Shadow Reading demonstrated by lantern slides, W. H. Mick, Omaha.

Toxic Palsies Complicating Pregnancy, S. Grover Burnett, Kansas City.

Methods which May be Employed to Avoid Open Operations for Fractures, J. P. Lord, Omaha.

A New and Simple Operation for Prolapse of the Uterus, C. H. Newell, Omaha.

Radioactivity as a Therapeutic Agency, F. H. Kuegle, Omaha.

The Non-irritation Treatment of Pyloric Ulcer, John W. Shuman, Sioux City, Iowa.

Sinusitis as a Source of Systemic Infections, Thaddeus Minassian, Des Moines.

The Intra-Spinal Treatment of Cerebro-spinal Syphilis, G. Wilse Robinson, Kansas City.

Transplantation of the Ileocecal Valve, Hugo W. Wightman, Omaha.

Remarks on Cancer of the Breast, Charles O'Neill Rich, Omaha.

The Advantages of Vaginal Section in Pelvic Surgery, A. I. McKinnon, Lincoln.

One of the Effects of Chewing Snuff, Gershom H. Hill, Des Moines.

The Interpretation, from a Practical Standpoint, of the Wassermann Reaction, Julius S. Weingart, Des Moines.

The Desirability of Acquiring Early Immunity from Contagious Diseases, especially from Measles, Mary Strong, Omaha.

Diagnosis of Syphilis, T. M. Paul, St. Joseph.

Nitrous Oxide Analgesia in Obstetrics, Palmer Findley, Omaha.

Diabetes Mellitus, S. K. Davis, Libertyville, Iowa.

A Modification in the Technique of Cesarean Section, Chas. Ryan, Des Moines.

Pellagra; A Case in Iowa, M. W. Flothow, Woodbine, Iowa.

SOCIETY PROCEEDINGS

Instead of the annual picnic, the Polk County Medical Society was entertained on Friday, August 13th, by Dr. and Mrs. Wilton McCarthy at their home, 1235, Thirty-fourth street, Des Moines. A very bounteous and appetizing supper was elegantly served in their Spanish Garden, after which the guests were entertained by moving pictures of Dr. and Mrs. McCarthy's hunting trip in the Rocky mountains last June. There was dancing and cards for those so inclined and music for everybody.

The guests, composed of the medical profession of Polk and surrounding counties, their wives and friends, numbered about 200 and it was agreed by all present that this was one of the most enjoyable occasions in the history of the society.

The Dallas-Guthrie County Medical Society held its annual picnic at Dexfield Park, August 10th. About twenty-five physicians, with their families, were present. After a basket lunch, such as only physicians' wives know how to prepare, the physicians played ball, swam in the swimming pool, ran foot races and engaged in other sports.

The Botna Valley Medical Society met at the Court House, Avoca, August 27th. The following program was rendered:

1. Hematuria—E. A. Moore, Harlan.
2. American Twilight Sleep—Palmer Findley, Omaha, Nebraska.
3. The use of Tuberculin in Surgical Tuberculosis—C. B. Burk, Atlantic.
4. Medical Examiners and what we may Expect from Them—M. L. Turner, Medical Director Western Life Ins. Co. Des Moines.
5. A Case of Raynaud's Diseases—J. C. Newlon, Exira.
6. An Important Rule for the Operating Room—Harold Gifford, Omaha, Nebraska.
7. Diagnostic Importance of Blood Pressure—B. D. Atchley, Shelby.
8. Congenital Syphilis in the Light of Wassermann Reaction—D. J. Glomset, Des Moines.
9. Report of a Case—A. B. Morris, Lewis.
10. Insanity with Special reference to the Diagnosis and the Prognosis of its Commoner Forms—T. B. Throckmorton, Des Moines.
11. Report of a Case—A. E. Meritt, Council Bluffs.
12. Gangrene of the Appendix—Max Emmert, Des Moines.
13. Complications in Mastoid Diagnosis—Jas. M. Patton, Omaha, Nebraska.
14. Paper—G. A. Spaulding, Avoca.
15. Pituitrin in Surgery—A. Weaver, Cumberland.
16. Fractures and their Treatment—C. N. Newell, Omaha, Nebraska.

Officers elected for the succeeding year are: President U. S. Mullens, Atlantic; Vice-President, G. A. Spaulding, Avoca; Secretary and Treasurer,

A. Weaver, Cumberland; Censors, W. F. Graham, Atlantic, G. C. Giles, Oakland, and D. F. Emmert, Avoca.

The Northeastern Iowa Medical Association met in Decorah, August 5, 1915. The program was:

Abnormal Tonsils—F. G. Murphy, Mason City.
Chronic Prostatic Disease—W. T. Daily, Cresco.

The officers for the ensuing year are: President, W. C. Hess, Cresco; Vice-President, W. T. Daily, Cresco; Secretary, F. A. Hennessy, Calmar. The next meeting will be held in Calmar.

The Iowa and Illinois Central District Medical Association.

Dr. Charles J. Mayo addressed about two hundred and twenty-five members and guests of the Iowa and Illinois Central District Medical Association, on Wednesday evening, September 1st, at Blackhawk Hotel, Davenport.

Dr. Mayo's subject was "Infections as a Cause of Local and General Diseases," a subject which has latterly become of vital importance to the profession and one for the discussion of which Dr. Mayo possesses special qualifications.

The twenty-five minute talk included a resume of the development of our knowledge concerning infection, beginning with a reminder that anti-small pox vaccination was employed in India and China centuries before its introduction into England. Emphasis was placed upon the advancement of the twenty year period just past, during which time control of infectious diseases has added twenty years to the average of life with the resulting increase of old age morbidity, notably cancer. Waterborne infections are regarded as our greatest infective menace at the present time.

In considering portals of entry for infectious processes, Mayo grants importance to conditions of hyperacidity, all of which, favoring diminished resistance and degeneration of local tissue, tend to the development of foci of infection. The importance of these foci in the alimentary canal especially is demonstrated in the more recent work of Rosenow which individualizes many more of our commoner points of infection, cholecystitis, appendicitis, etc.

In this connection mention was made of the cure of rheumatoid arthritis through the measure of colon resection, which reminds that Metchnikoff considered the lower bowel with its putrefactive absorptions to be a mistake.

Dr. Mayo was followed briefly by Dr. Oliver Ormsby of Chicago. A rising vote of thanks was tendered the guests of the evening.

MARRIAGES

Dr. Charles E. Porter, of Menlo, to Miss Minnie Wilson, of Stuart, August 19th.

Dr. Claude G. Dickey, of Cambridge, to Dr. Carrie C. Harvison, of Des Moines, August 7th.

Dr. Harvey E. Harlow, of Union, to Miss Florence V. Marshall, of Madelia, Minn., August 10th.

Dr. J. W. Billingsley, of Monroe, Ia., to Miss Mary Mabelle Smith, of Indianola, Iowa, at Colorado Springs, Colorado, August 25th.

BIRTHS

Dr. and Mrs. W. H. Jenks, of Tipton, a daughter, August 4th.

Dr. and Mrs. E. C. Hartman, of Algona, a daughter, August 12th.

Dr. and Mrs. S. E. Lincoln, of Des Moines, a son, June 1st.

Dr. and Mrs. A. H. Rosburg, of Denison, a daughter, July 21st.

DEATHS

William H. Rosser, M. D., College of Physicians and Surgeons, Keokuk, 1861; assistant surgeon of the 46th Iowa Volunteer Infantry in the civil war; a practitioner for many years at Troy, Iowa, died at the home of his daughter at that place August 12th, aged seventy-eight.

Philip A. Reppert, M. D., Rush Medical College, 1903; a practitioner for the past eleven years at Burlington, died at his home in Burlington after a long illness, aged fifty-six.

Mrs. Charlotte Elizabeth Jenkins, widow of the late Dr. George F. Jenkins, of Keokuk, died at the home of her sister, Mrs. G. J. Emeny, at Fulton, New York, August 15th. Mrs. Jenkins was born at Fulton, New York, September 13, 1847, and was a descendant of one of the old Holland families established along the Hudson in colonial days. Her father, Fred D. Van Wagenen, obtained the government contract for the construction of the locks and canal at Keokuk many years ago.

While visiting her father here, Charlotte E. Van Wagenen met Dr. George F. Jenkins to whom she was married December 29, 1870, at Fulton, New York. Dr. and Mrs. Jenkins lived in the same home in Keokuk for forty-four years. Here occurred the death of Dr. Jenkins September 4, 1914.

Mrs. Jenkins was an active member of the Westminster Presbyterian church and was prominent in the social and intellectual life of Keokuk and vicinity. Dr. and Mrs. Jenkins were the parents of five children. Their only son, George Van Wagenen Jenkins, died of typhoid fever contracted in camp at Jacksonville, Florida, during the Spanish-American war; one daughter died in infancy; another daughter, Mrs. Hazen I. Sawyer, of Keokuk, died April 10, 1915; the two surviving daughters are: Mrs. H. Bryden Blood, of Keokuk, and Mrs. Karl Kiedaisch, of Chicago. Mrs. Jenkins had been ill for over a year. Grief over the loss of her husband and children hastened her death at the age of sixty-eight.

CHANGES OF LOCATION

Dr. G. W. Townsend, of Denison, has removed to Chadron, Nebraska.

Dr. J. K. Guthrie, a graduate of the Physicians and Surgeons College of Baltimore, has located at Algona.

Dr. F. C. Shadt, formerly associated with Dr. Wm. Jepson, of Sioux City, has located at Williamsburg, entering into partnership with Dr. G. F. Schug of that place.

Dr. Otto H. Pagelson, of Ft. Dodge has formed a partnership with Dr. C. M. Wray, of Iowa Falls, and will specialize in eye, ear, nose and throat work at Iowa Falls.

Dr. Conrad De Jong, of Fort Dodge, has removed to Grand Rapids, Michigan.

Dr. Trezona, of Lamont, has removed to Gibson, Illinois.

Dr. C. D. Mercer, of Addison, Michigan, has located at West Union where he will practice with Dr. G. D. Darnall.

Dr. L. J. Putman, of Shenandoah, has removed to Omaha, where he will be associated with Dr. C. C. Allison's staff of surgeons.

MEDICAL NEWS

Dr. Rose Butterfield, of Indianola, has been taking post graduate work at Harvard.

Dr. E. B. Henderson, of Marengo, is slowly recovering from his recent severe attack of uremia.

Dr. L. P. Reich, of Fredericksburg, recently underwent an operation for appendicitis and gall stones.

Dr. G. M. Adair, of Anita, has just returned from New York City, where he spent a month in post graduate work.

Dr. M. P. Summers, of Cushing, recently underwent an operation for appendicitis at the Battle Creek Hospital.

Dr. George E. Hearst, of Cedar Falls, has been spending some time in Cleveland studying with Dr. George W. Crile.

Dr. O. L. Chaffee, of Waverly, has resumed his practice, after having been confined for some time in a hospital in Chicago.

Dr. Charles M. Whicher, of Des Moines, is taking a post graduate course in New York City, specializing in children's diseases.

The staff of the Iowa Lutheran Hospital, Des Moines, has recently been enlarged by the addition of Drs. C. F. Howland, Chas. Ryan and R. A. Weston.

Dr. T. W. Kemmerer, of Davenport, has been appointed assistant professor in pathology, and bacteriology, at the University of California Medical

Department, Los Angeles, and will enter upon his duties at once.

Dr. W. M. Piper and wife, of Conroy, were seriously injured recently when their auto went off a grade near South Amana. The doctor, pinned by the neck by the steering wheel, was rendered unconscious. Mrs. Piper suffered a broken shoulder.

Dr. Florence Brown Sherbon, of Colfax, has been appointed assistant to Miss Julia Lathrop, of Washington, D. C., director of the Federal Children's Bureau. Dr. Sherbon will have charge of the child welfare investigation to be made in Iowa beginning January 1, 1916.

HOSPITAL NOTES

The Training School for Nurses of The King's Daughters Hospital, Perry, has been recognized as an accredited training school for nurses by the State Board of Health.

The first annual report of the Iowa Lutheran Hospital, Des Moines, shows a healthy and commendable growth. During the year 1914, there were treated in this institution 133 medical cases, 51 obstetrical and 305 surgical cases. The death rate was 4 per cent.

The Washington County Hospital, at Washington, Iowa, for the year ending August 1, 1915, admitted 286 patients of which 67 were medical, 21 obstetrical and 198 were surgical. The finances of this institution appear to be well managed; the expenses for the year were \$10,232.81 and the income from patients was \$7,213.44 leaving only a difference of a little over \$3,000.00 for the county to pay. It is thought that a levy of three-tenths of a mill will yield sufficient funds to meet this difference. This shows the small burden upon the tax payers that such an institution is. It is believed by many that the counties without county hospitals are to a greater expense for hospital care of their poor than a good county hospital would entail.

The Washington County Hospital has set a very high standard of efficiency which future county hospitals will need to strive diligently to equal.

PHYSICIANS' CHILDREN WINNERS

In the Baby Health Contest held at the recent State Fair, Des Moines, one of the unusual features was the number of physicians' babies who won prizes. In the sweepstakes class for boys, Tom B. Throckmorton, son of Dr. Tom B. Throckmorton, received the highest score, 98.3 and Myron Nourse, son of Dr. Leslie M. Nourse, was second with a score of 97.4.

In the rural boy class, twelve to twenty months old, Arthur H. Downing, son of Dr. J. Arthur Downing, was first with a score of 96.35. Drs. Throckmorton and Nourse are residents of Des

Moines, while Dr. Downing lives north of Des Moines. All are members of the Polk County and Iowa State Medical Societies.

In the town boy class, twelve to twenty months old, Charles J. Kalen, son of Dr. J. B. Kalen, a dentist at North English, was first with a score of 96.90.

The highest score for the state was won by Catherine Reinig, daughter of Frederick Reinig, of Lormor. Her percentage was 98.4, one-tenth of a per cent higher than Tom B. Throckmorton. The women thus win as usual.

REMEMBER YOUR FRIENDS

We often wonder how much thought the members of the Iowa State Medical Society give to the advertising policy of this Journal and if they realize how important to the success of our Journal the advertising is. If every member of this Society after reading the following editorial which appeared in the August, 1915 issue of the California State Journal of Medicine would at once write to those of our advertisers whose products are likely to be needed, it would greatly encourage them and make the work of securing renewals and new contracts much easier.

The business manager of your Journal is firmly convinced that if every member of the Society would make it a point to patronize the advertisers in this Journal whenever possible and to always mention that the advertisement was seen in The Journal of the Iowa State Medical Society, the advertising income of this Journal would easily be increased 50 per cent, which is a consumation greatly to be desired. Doctor, it is up to you.

"There was a time, not so many years ago, when no respectable publication would refer to its advertisements or its advertisers. To be sure, many items boosting advertised things appeared in some periodicals—mostly medical (?) journals—but these were what is known as of the 'reading notice' variety; carefully prepared by the advertiser and furnished to the publication; they were run as part of the advertising obligation. Now, however, and largely through the influence of your own Journal, all that has changed; we are proud of our advertisers and our advertising. Nothing goes into the advertising pages that is not as carefully scrutinized as the matter that goes into the reading pages. A considerable amount of advertising is refused each year because the Journal cannot vouch for the statements or the standing of the would-be advertiser, or for several other reasons. There is no reason, now, why any advertiser should not be referred to or anything advertised should not be mentioned in any part of the Journal. And please remember that these advertisers are your friends; they very materially help out the business of the society by so liberally patronizing the advertising pages of your Journal. They offer, for your consideration, a constantly changing variety of things that it would pay you to take an interest in; there is always some-

"MEET US IN DES MOINES"

thing new coming along, and it will be well worth your while to see, from month to month, what new things are set forth in the advertising pages. You can save money, you can learn a lot that will be of benefit to you, and not infrequently you can secure samples or catalogues or premiums that are of real value. Also, just remember that there is no 'bunk' about anything we advertise; if you are not entirely satisfied with your transactions with any advertiser, the Journal stands ready to straighten out the matter. The new things in this issue are too numerous to mention right here, but just look them up and see for yourself; if you have not looked through the advertising pages for a couple of months, it will surprise and please you to see the number and variety of new things and new suggestions set forth. The statements made and the information contained in our advertisements may be absolutely relied upon. Help your friends and those who help you. Read the advertisements in this issue."

PROVISIONS OF THE PERKINS BILL RELATING TO THE CARE OF CURABLE DEFORMITIES AND MALADIES IN CHILDREN

According to the provisions of the Perkins bill, which became effective July 1, 1915, any probation officer, overseer of the poor, regularly-licensed physician or public school teacher may furnish, to any judge of a district or superior court, information concerning any child under sixteen years of age suffering from a curable or remediable deformity or malady; and, upon such information or upon his own motion, such judge, sitting as a juvenile court, may order a hearing, the parents and the county attorney being notified. The judge may appoint a local physician to report to him, on blanks furnished by the state; and if it appears to the court, from such report, that help may be received, said child, upon the consent of the parents, may be committed to the University Hospital at Iowa City, the actual expense at the hospital to be paid by the state on order of the Executive Council.

The children will receive excellent care. The upper floors of the new wing of the University Hospital will be devoted to them, and the new solarium and roof garden will be converted into an outdoor ward and playground. Doctor, will you help in bringing to poor children the benefits of this bill? L. W. Dean, Dean of the College of Medicine, of the State University of Iowa, will be glad to furnish any further information which you may desire.

SECOND INTERNATIONAL CONFERENCE IN RACE BETTERMENT

The Second International Conference on Race Betterment, held at San Francisco, August 4-8, was attended by a large number of men and women of

scientific achievement. The Conference discussed race decadence, the possibilities of race improvement, and the agencies of race betterment.

Luther Burbank, the plant wizard, discussed "Evolution and Variation with the Fundamental Significance of Sex". Mr. Burbank said: "Abundant, well balanced nourishment and thorough culture of plants or animals will always produce good results in holding any species or variety up to its best hereditary possibilities, beyond which it cannot carry them, and lacking which, maximum development can never be realized. But a sharp line must always be drawn between the transient results, temporarily attained through favorable environment and the permanent results of selection of the best individuals for continuing the race. Only by constant selection of the best can any race ever be improved."

Paul B. Popenoe, Editor of the American Journal of Heredity, in discussing "The Natural Selection of Man" declared: "There are only two ways to improve the germinal character of the race, to better it in a fundamental and enduring manner. One is to kill off the weaklings born in each generation. That is Nature's way, the old method of natural selection which we are all agreed must be supplanted. When we abandon that, we have but one conceivable alternative, and that is to adopt some means by which fewer weaklings will be born in each generation. The only hope for permanent race betterment under social control is to substitute a selective birth-rate for Nature's death-rate. That means—eugenics."

Dr. J. H. Kellogg, Superintendent of the Battle Creek Sanitarium proposed that the Conference institute a eugenics register which would undertake to register two classes of persons: "First, those who, on examination in relation to personal characteristics and family pedigree, are found to measure up to eugenic standards. Second, the children born of parents whose pedigree and physical characteristics conform to the required standards. Such a registry would be the beginning of a new and glorified human race which sometime, far down in the future will have so mastered the forces of nature that disease and degeneracy will have been eliminated. Hospitals and prisons will be no longer needed, and the golden age will have been restored as the crowning result of human achievement and obedience to biologic law."

Among the other speakers were Dr. David Starr Jordan of the Leland Stanford University; Dr. Ernest B. Hoag of the Los Angeles Juvenile Court; Edgar L. Hewett, Director of the United States Bureau of Ethnology; Prof. Irving Fisher, of Yale University, and many others of equal prominence in sociological and scientific circles.

The Conference was concluded with a Morality Masque, in which two hundred students of the University of California took part. This masque was a dramatic arraignment of disease and war.

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No. 10

Festschrift

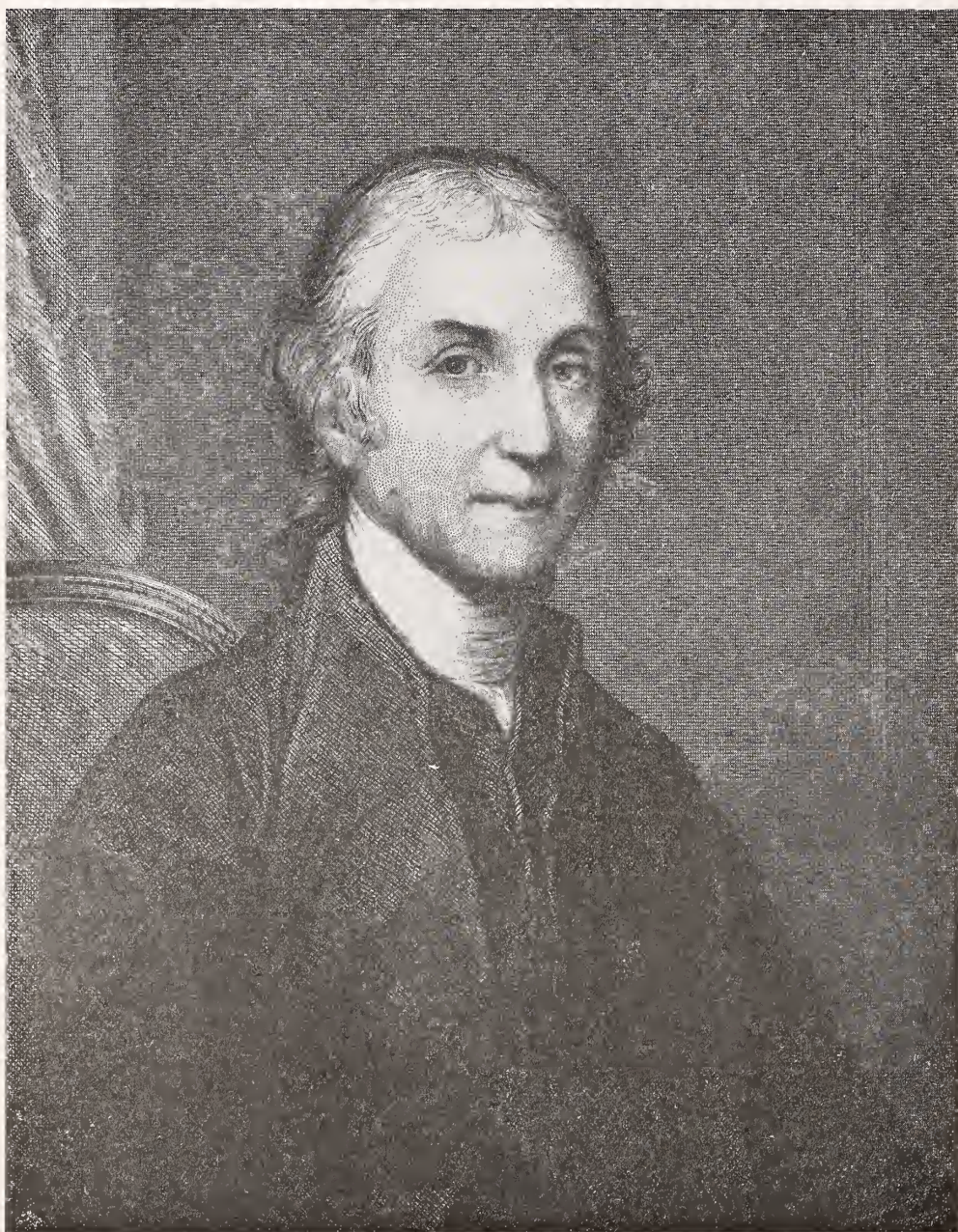


Priestley

1915

Welch Ptg. Co., 1313-15 Locust St. Des Moines
1915

To
James Taggart Priestley
in commemoration of
forty years' practice of medicine
this
Festschrift
is dedicated by the
Medical Library Club
of Des Moines



JOSEPH PRIESTLEY, LL. D., F. R. S., ETC.
1733-1804



James Saggart Priestley

James Taggart Priestley

Historical and Personal

IT seems most difficult to add a personal note to an estimate of the friend and colleague, as he lives in our midst, without having the strong feelings of regard present a picture that will not be a true measure of the man and his work. It is but right that a man should be judged by his own work, and not by the deeds of his forefathers, but if only for the sake of history, it is interesting to recall that the name of Priestley has been honored by his fellowmen in preceding generations as well as in this. That the direct lineal descendant of Dr. Joseph Priestley, the discoverer of oxygen and one of the most remarkable characters of his period, has labored here in the interest of Iowa medicine these forty years, seems worthy of notice.

In this day of specialized labor, and remembering the age in which Joseph Priestley lived, 1733—1804, it is difficult to appreciate the unusual combination of theologian, scientist, and politician. When we consider again the crude state of knowledge of the physical sciences of that period, it seems indeed remarkable that one, who was trained for the ministry, should after middle life become an acknowledged authority on the chemistry of the gases, the friend of Dr. Benjamin Franklin, and that he was a contemporary of the great Scheele of Sweden and Lavoisier of France.

Priestley's reputation as a man of science rests upon his numerous and important contributions to the chemistry of gaseous bodies; and to form a just estimate of the value of his work, of the extent to which it advanced the knowledge of fact and the development of sound theoretical views, we must reflect what chemistry was in the first half of the eighteenth century. The vast science which now passes under the name had no existence. Air, water, and fire were still counted among the elemental bodies; and though VanHelmont, a century before had distinguished different kinds of air, and Boyle and Hales had experimentally defined the physical properties of air, no one suspected the existence of the numerous totally distinct gaseous elements which are now known, or dreamed that the air we breathe and the water we drink are compounds of gaseous elements.

In his auto biography Joseph Priestley states that he first became interested in chemistry in Leeds where he moved in 1767 while living next door to a public brewery. He amused himself with making experiments on the fixed air which he found ready made in the process of fermentation. Following this he discovered more new gases than all his predecessors had done, in spite of the fact that he was without the careful scientific training of his contemporaries, and compelled by reason of his limited income as a minister, to create his own apparatus. He laid the foundation of gas analysis; he discovered the complementary action of animal and vegetable life upon the constituents of the atmosphere; and finally he crowned his work, in 1774, by the discovery of that "pure dephlogisticated air" to which the French chemists subsequently gave the name of oxygen. Its importance as the constituent of the atmosphere which disappears in the processes of respiration and combustion, and is restored by green plants growing in sunlight, was proved somewhat later.

For these brilliant discoveries the Royal Society elected Priestley a Fellow and gave him their medal, while the Academies of Paris and St. Petersburg conferred their membership upon him. Edinburgh had made him an honorary Doctor of Laws, at an early period of his career; and it seems strange to add that because Priestley's tenets of religious faith were not in harmony with the

established church of England, he received no recognition from the universities of his own country.

It was because of religious controversies that he was compelled to flee from Birmingham in 1793, where during a riot his property, apparatus and much valuable scientific material were destroyed. For a short time afterward he was in charge of a small church in a suburb of London, but then he decided to emigrate to America where his three sons had preceded him the year before.

While evidently a man of radical views in matters of religion and politics, he was a sincere seeker after truth, and all records refer to him as a man of unblemished reputation and irreproachable moral character; and Huxley further states that Joseph Priestley was no gloomy fanatic, but as cheerful and kindly a soul as ever breathed, the idol of children, one who charmed away the bitterest prejudices in personal intercourse, who never lost a friend, and the best testimony to whose worth is the generous and tender warmth with which his many friends vied with one another in rendering him substantial help in all the crises of his career.

The arrival of Joseph Priestley in America in 1794, and his frequent presence among the men of science of that day, greatly stimulated scientific studies.

Benjamin Franklin, who had been his friend in England, made strenuous efforts to have Priestley locate in the City of Brotherly Love, but he chose to take up his residence in the small town of Northumberland, Pennsylvania, on the Susquehanna River, where he fitted up a chemical laboratory. Extensive efforts were made, with some success, to found a university at Northumberland, of which Doctor Priestley was to be the president.

There is preserved an interesting bit of correspondence between Dr. Benjamin Rush and Dr. Joseph Priestley in reference to the chair of chemistry in the University of Pennsylvania. In the minutes of the trustees of the university is a record of November 11, 1794, which states that Dr. Joseph Priestley was unanimously elected professor of chemistry. For personal and family reasons he felt compelled to decline this honor, to which he refers in a subsequent letter to Dr. Benjamin Rush, but he attended frequent meetings in Philadelphia, and delivered several short courses of special lectures, so that he contributed extensively to the literature of the period, and filled an important place in developing the science of chemistry in this country.

During his ten years of residence in this country he was in charge of a small Unitarian Church in Northumberland. He died on February 6, 1804, from the effects of a chronic digestive disorder, at the age of seventy years. He was born March 24, 1733.

On the 25th of January, a few days before his death, he wrote the following to Dr. Logan: "By means of various illnesses I am reduced to a state of extreme debility; and if the swelling that began at my feet, which has now reached my knees, should continue to advance as it has done, my continuance here can not be long. But I have lived a little beyond the usual term of human life, and am content and thankful. Few persons, I believe, have enjoyed life more than I have done.

"Tell Mr. Jefferson that I think myself happy to have lived so long under his excellent administration, and that I have a prospect of dying in it. It is, I am confident, the best on the face of the earth, and yet, I hope to rise to something more excellent still."

His theological and miscellaneous works and memoirs and correspondence were collected and edited by John T. Rutt, the former in twenty-six volumes (London 1817-32), the latter in two volumes (ib. 1831-32). The edition contains over one hundred and thirty separate works, varying in size from short pamphlets to four volume treatises, and the subjects treated of covered almost the whole ground of human knowledge and speculation.

The best estimate of Dr. Joseph Priestley is given in the address of Thomas Huxley delivered at the presentation of the statue of Priestley to the town of Birmingham on the first of August, 1874, the hundredth anniversary of the discovery of oxygen. In his closing, he states, "if the nineteenth century is other and better than the eighteenth, it is in great measure to him and such men as he that we owe the change. If the twentieth century is to be better than the nineteenth, it will be because there are among us men who walk in Priestley's footsteps. Such men are not those whom their own generation delights to honor, such men in fact rarely trouble themselves about honor, but ask in another spirit than Falstaff's, 'What is honour? Who hath it? He that died o'Wednesday?'.

But whether Priestley's lot be theirs, and a future generation in justice and in gratitude, set up their statues; or whether their names and fame are blotted out from remembrance, their work will live as long as time endures."

It was my privilege to enjoy a recent visit in Northumberland among the kinsfolk of Doctor Priestley, to be in the home built by Dr. Joseph Priestley in 1794 on the banks of the beautiful Susquehanna, where he lived during his ten years of residence in this country. Here he died in 1804, and in the nearby cemetery is his grave.

Through the courtesy of the daughters of Joseph T. Priestley, M. D., great grandson of the above, who lived in Northumberland, 1819 to 1883, many interesting mementoes of Dr. Joseph Priestley were permitted to be examined. Here is preserved the old microscope with single lens, and microscopic slides mounted in peculiar bone-frames, each containing a series of five or six preparations; his old telescope, and of particular interest was the magic lantern with colored slides mounted in series of six or eight in wooden frames, crude but artistic, mostly scenes of home life, which were used for the entertainment of the children of the family at Christmas and other special days.

Most of the chemical apparatus used by Doctor Priestley is preserved in the museum of the University of Pennsylvania and the Smithsonian Institution at Washington.

It was a privilege to see and examine the original manuscript of his autobiography written in 1795; also his signet ring; further, a medal with portrait and wedgewood likeness of Dr. Benjamin Franklin, both personal gifts.

In this home is kept the portrait painted by Stuart, from a copy of which the accompanying plate has been prepared.

Among these many relics of Priestley is a memorial album presented by the chemists of America, while in session in Northumberland at the centennial of the discovery of oxygen, August 1, 1874, which contains the photographs and autographs of all chemists present. On the last page is a copy of the resolution that this album be presented to the family in memory of the distinguished ancestor, and that it be preserved until the next centennial August 1, 1974, when the chemists of America are again to meet in Northumberland.

Across the way is the house in which our Dr. James Taggart Priestley was born, spent his boyhood, and subsequently studied medicine under the preceptorship of his uncle Dr. Joseph T. Priestley.

James Taggart Priestley was the son of Marks John Biddle Priestley, (1823-1898), a great grandson of Dr. Joseph Priestley.

I met several gentlemen who were playmates of James Taggart Priestley, and heard the usual reminiscent tales connected with those who have attained greatness.

The physicians in the generations following Joseph Priestley in this country seem all to have been closely affiliated with the University of Pennsylvania. As mentioned before Joseph Priestley was offered the chair of chemistry in 1794. Dr. Joseph T. Priestley, a great grandson, graduated from the University of Pennsylvania in 1844, subsequently studied in Paris and then located in Northumberland, and later became the preceptor of James Taggart Priestley, who graduated in 1874;

then his son Crayke S. Priestley left the same institution twenty years later in 1894. His untimely death in 1904, on the threshold of a useful and most promising career, brought such keen regret.

Sir William O. Priestley, (1829-1900), the English obstetrician and pupil of Simpson, who was the discoverer of the anesthetic properties of chloroform, was a grandnephew of Dr. Joseph Priestley.

Dr. James Taggart Priestley has been a member of the Iowa profession during forty years, and it will be difficult for one person to present a comprehensive appreciation of his active career. It is needless to say that to have known Priestley for half that period has been one of Life's privileges, and in another sense a liberal education. It has taught that we live largely by precept and example, and by the influence of personality in its molding impress on character.

In the history of all successful careers there is usually a period of struggle, and that of Doctor Priestley has not been an exception, yet with his ability, training, hard work, and devotion to high ideals, he has come to a place of highest regard in his profession. One of the interesting stories that has come down from the early period of Priestley's medical life is told by Dr. Addison C. Page about his father and Dr. Priestley who were associates. When the outlook seemed most discouraging, a Northwestern Railway accident yielded a fee of fifty dollars to each, which they promptly spent in each purchasing a horse. From this incident dated the success of both.

If the special characteristics of Priestley are recalled, all will agree that the striking feature is his versatility. The rare faculty of adapting himself to all conditions in each circle, lay or professional, cultured or illiterate, is his; he easily dominates by the charm of his personality. Travel has been his hobby, and there are probably very few regions of the globe, open to the traveller, with which he is not familiar. His knowledge of human nature and broad culture have been strong elements in his development as consultant and physician.

He always has entered into the medical life of his city and state with great interest and influence. In 1900 he was honored by the Presidency of the State Society. There are few who enjoy a wider acquaintance at meetings of the American Medical Association. He served the Section of Practice of Medicine as secretary in 1896-97, and from 1894 to 1900 he was on the board of trustees of the Association, being instrumental in framing the articles of incorporation under its present plan of organization.

As a teacher he is a clear and forceful lecturer, and the practical hints in his clinical talks are a distinct feature of his discussions at medical conferences.

Doctor Priestley has had an unusual opportunity in developing the medical service of life insurance companies, and the present high plane of this department is largely due to him.

He has made his impress on medical colleagues, and above all he has taught Des Moines physicians the value of promptness in meeting appointments. When Dr. Priestley makes an appointment for eight-fifteen, it requires no timepiece to determine if the meeting is on time.

The cordial fraternal spirit that prevails in the medical profession of Des Moines, and delightful "esprit de corps" among fellow workers, is in large measure due to Doctor Priestley. His handling of anecdote and story has charmed many an audience, and his rare qualities of fellowship have endeared him to a host of friends.

During the years that Doctor Priestley has practiced in Des Moines, medicine has made perhaps the greatest strides in its history, and although he, as he says, "has seen all of them come, and most of them go," yet, he has ever been in the forefront, and we are glad today to acknowledge him the most progressive among us. In this spirit, The Festschrift is offered to James Taggart Priestley as a testimony of the love and esteem of his fellows.

Walter Lawrence Bierring.

Influenzal Meningitis

With Report of a Case

FRANK A. ELY, M. D.

With Bacteriologic Report by Julius Weingart, M. D.

Des Moines

AS Moses smote the rock from which gushed forth the water to relieve the thirst of the children of Israel, so did Quinke by means of his lumbar puncture liberate from restriction our diagnostic efforts pertaining to an antemortem diagnosis of the causative organisms of meningitis.

Since Pfuhl¹ in 1892 first reported three cases of meningitis in which he demonstrated in the exudates from the meninges post mortem, an organism which he claimed to be the Pfeiffer bacillus, considerable work has been done and numerous cases have been reported to prove that the *Bacillus influenzae* may be, and frequently is, the etiologic agent in the production of leptomeningitis.

In view of the fact that influenzal meningitis is not a very common disease, and owing to the further fact that only three prior cases have been reported in which treatment with an immune serum has been carried out, I feel that it may not be out of place to make the following case report.

Case Record.—The patient is a male child, three and one-half years old. The family history is negative except for the fact that a month or so prior to the onset of the present illness, the father suffered from a six day attack of influenza. The previous history is negative, the patient having been an unusually robust child.

On June 16th, the patient developed an acute febrile illness, characterized by vomiting, abdominal pain, and slight elevation of temperature (101°). On June 17th, the vomiting continued and the evening temperature reached 103°. Constipation was marked and large doses of calomel and castor oil were required to move the bowels. From June 17th to June 20th the temperature fluctuated between 100° and 103°; the pulse rate continued constant at 124, and the respirations seldom exceeded 24. On June 20th, rigidity of the neck muscles with some retraction of the head was observed, and the child made marked protestations of pain when the extremities were moved. On June 22nd, the evening temperature touched 104°, but the pulse rate remained at 124. The mind was slightly clouded and the muscular rigidity and bodily hyperesthesia persisted. The pupils were equal and responded normally to light. On June 23rd, the patient had a chill and an abrupt elevation of temperature, the height of the curve touching 106°. Under cold sponging and spinal ice bags the fever was

brought down to 103°, where it remained until the evening of the 24th when it registered 104°.

Physical Examination, June 24th.—The patient is a well developed, robust child three and one-half years old. The temperature is 104° (rectal); pulse, 130; respirations, 30; pupils, regular, equal and respond promptly to light. There is no evidence whatever of any cranial involvement; ophthalmoscopic findings, negative. The child is mentally alert as evidenced by the fact that he tries to blow out the examiner's pocket flash light, having been taught to blow out the match when the father's cigar was lighted. There is slight rigidity of the neck muscles, but the chin can be easily depressed upon the chest. The most notable symptom is a marked hyperesthesia of the entire body which causes outcries of pain whenever any part of the body is moved. This is particularly true when the extremities are manipulated. There is a tendency to flex the left thigh upon the abdomen, and deep pressure along the spine is painful. No typical Kernig phenomenon can be demonstrated, but the extension of the leg on the flexed thigh causes the patient to roll over on the side contralateral to the extremity tested, a manifestation which I find equivalent to the Kernig sign. The patellar and Achilles reflexes are weak, and the Babinski and Oppenheim phenomena are absent. The pharynx and tonsils are slightly congested but bear no exudate. The tongue is dry and is covered with a grayish-white coating. There is no discharge from the ears or nostrils and the mastoids are not edematous or hypersensitive to pressure. The chest, anteriorly, is negative, but between the tip of the right scapula and the spine a small area of dullness is made out, and here increased vocal resonance and bronchial breathing is heard. A few moist rales can also be heard in this vicinity. At times, especially when turned on his side, the child gives vent to a short, grunting cough. There is no expectoration. The lower border of the liver can be palpated with difficulty, but the spleen eludes palpation.

In summarizing the results of the examination, it may be said that the clinical manifestations are not very distinct, and without the history of rigidity of the neck muscles and the mode of onset of the disease, one might be temporarily at a loss for a diagnosis, but the history together with my findings strongly indicates meningitis.

At the time of examination a lumbar puncture permitted the escape, under greatly increased pressure, of 30 c.c. of a cloudy cerebrospinal fluid. A portion of this was received into a sterile test tube, and the remainder into a Loeff-

1. Pfuhl, Berl. Klin. Wchnschr., 1892, xxix, 979; 1009.

fler's diphtheria tube since this was the only available medium. These specimens were delivered within two hours to my friend and colleague, Julius Weingart, whose bacteriologic report is here given.

Bacteriologic Report.—The spinal fluid is turbid and shows 600 cells per cubic millimeter. There is a moderate excess of globulin by the Noguchi test. Smears of the sediment show vast numbers of a very small Gram-negative bacilli. The majority of these are extracellular. There is a fairly well marked pleomorphism. Some of the organisms are coccoid in form, others are long and filamentous. A few seem to be growing in chains. The majority, however, show the typical morphology of the influenza bacillus.

The bacilli stain somewhat unevenly, but no distinct polar staining is made out. They also stain less easily than most bacteria. Even after being stained five minutes with Loeffler's methylene blue, the rods are pale. There is no definite grouping except for the few chain-like forms above mentioned.

Cultures were made on glucose serum agar, Loeffler's serum, and blood agar. No growth could be demonstrated except upon the last medium, and even here it was very slight. Smears made from twenty-four to forty-eight hour old cultures on blood agar showed that the organism had grown to some extent. Here, however, only the typical short rods were seen. The cultures rapidly died out and as no further specimens were obtained, no animal inoculations were made.

The diagnosis of the organism as bacillus influenzae is made on the following grounds:

- (1). Its small size.
- (2). Its pleomorphism.
- (3). Its failure to retain the Gram stain.
- (4). The moderate difficulty with which it is stained.
- (5). Its inability to grow on a medium which does not contain hemoglobin.

Having satisfied our minds that we had to do with a true influenzal meningitis, I availed myself of the kind offer of the Rockefeller Institute and wired for some of the immune serum which Wollstein and Flexner have recently succeeded in obtaining from goats and horses immunized to virulent strains of the influenza bacillus.

Case Record Continued.—On June 28th, the 13th day of the child's illness, the serum arrived, and at 1:00 P. M. the attending physician withdrew by lumbar puncture 40 c.c. of cerebrospinal fluid and introduced in its place 30 c.c. of serum. The same evening the temperature did not go above 101.4°, whereas the previous evening temperatures had ranged between 102.4° and 104.2°. The pulse rate was unchanged, compared with that at the same time the previous day, being 130. On June 29th, the patient was dull all day and took nourishment poorly; the pulse rate continued at 130, but the even-

ing temperature registered only 100.8°. A second 30 c.c. dose of serum was administered intraspinally. One June 30th, the morning temperature registered 99.8°, with a pulse rate of 135, and the evening temperature continued low, being 100.6°. An attempt at lumbar puncture on this day was unsuccessful. On July 1st, the evening temperature again touched 102.4°, and the pulse rate increased to 150, the temperature being the highest recorded since the first administration of the serum. A second unsuccessful attempt to tap the subdural space made it necessary to adopt some other mode for the administration of the serum. Accordingly, two doses of 15 c.c. each were given subcutaneously twenty-four hours apart. During this day, clonic contractions of the extremities were observed, and the patient's general condition was perceptibly worse. On July 2nd, lumbar puncture was successful; 20 c.c. of serum were introduced subdurally, and 15 c.c. were given subcutaneously eight hours later. The clonic contractions of the extremities persisted. The evening temperature reached 102° with a pulse rate of 150. On July 3rd, there was marked general muscular rigidity; the pulse rate became more and more accelerated, and at 3 P. M. July 4th, the patient died. The only benefit seemingly derived from the use of the serum had been a lowering of the temperature.

Owing to the fact that the patient was many miles removed from our laboratory and was treated by an exceedingly busy country practitioner, examinations of the specimens of cerebrospinal fluid withdrawn during the course of the treatment were not made. An autopsy was not permitted.

Discussion of the Literature.—The first person to suggest that the influenza bacillus might be a cause of meningitis was Pfuhl, who in 1892, reported three cases, and during 1896-1897 eleven additional ones², all of which came under the ban of laboratory suspicion because the B. influenzae was not found alone in the meningeal exudates of his cases, but appeared in conjunction with other micro-organisms. His work, however, blazed the way for other observers who subsequently placed influenzal meningitis on a sound bacteriologic basis.

Fraenkel³ in 1898, reported two fatal cases with satisfactory laboratory proofs of the causative micro-organism. These were the first cases reported occurring in young children.

Slawyk⁴ has the honor of being the first to report a case of influenzal bacteremia with satisfactory laboratory proofs.

Langer⁵, in 1901, reported the first case of influenzal meningitis with recovery, the patient being a child of nine years. From 1901 on, case

2. Pfuhl. Deutsche med. Wchnschr., 1896, xxii, 82; Ztschr. f. Hyg., 1897, XXVI, 112.

3. Fraenkel. Ztschr. f. Hyg., 1898, xxvii, 315.

4. Slawyk. Ztschr. f. Hyg., 1899, xxxii, 443.

5. Langer. Jahrb. f. Kinderh., 1901, liii, 91.

reports appeared more frequently and the year 1907 furnishes us reports from five different observers.

Cohen⁶, in 1909, reported three cases, and in his discussions of the subject in general, took occasion to doubt the exact relationship which other observers have assumed to exist between the bacillus found in so-called influenzal meningitis, and Pfeiffer's bacillus, claiming that while the two forms of organisms were similar morphologically and culturally, they, nevertheless, differed in virulence and serologic phenomena.

In 1909, Davis⁷ reported two cases of influenzal meningitis occurring in twins, the onset being on the fifth day of their lives, thus indicating that the period of incubation may be very short, and that a common source of infection probably existed.

Ritchie⁸ in 1910, first called attention to the long filaments which frequently occur in cultures of the influenza-like bacillus obtained from the cerebrospinal fluid in the type of meningitis here under discussion. These filamentous forms were very prominent in the cerebrospinal fluid of my case.

The medical literature of 1911 is enriched by two articles on this subject, one by Martha Wollstein⁹ and the other by David John Davis¹⁰; both of these, in addition to reporting cases of influenzal meningitis, enter into a most comprehensive discussion of the whole subject, and it is largely from these articles that the best of the subject matter in this paper has been obtained.

As far as I am able to ascertain from the literature, to Wollstein of the Rockefeller Institute, working in conjunction with Flexner, belongs the credit of the first experimental production of influenzal meningitis in monkeys. She found that mice and guinea pigs were very susceptible to intraperitoneal inoculations of the B. influenzae, either from pure cultures or when the cerebrospinal fluid containing them was introduced. Attempts at increasing the virulence by passing the organisms through a series of mice were not successful, although the dose was frequently reduced to one-half the original fatal one after the ninth transmission. A systematic increase in virulence, however, seems not to have been noted. The organism, in practically every instance, was recovered from the peritoneal fluid and the heart's blood.

In the case of guinea pigs of 200 gm. weight, the injection of one-half to one culture usually proved fatal in from twelve to thirty-six hours,

and the organism was recovered post mortem in the peritoneal fluid, heart's blood, viscera, and meningeal exudates.

Rabbits were found to be much less susceptible, and only occasionally could a strain of organisms be obtained sufficiently virulent to bring about a fatal issue. Those strains obtained from the respiratory passages of the human were usually non-virulent. Out of a large number of strains experimented with, only four proved to be virulent, and of these, three were obtained from the cerebrospinal fluid of cases of influenzal meningitis. The organism was recovered from the heart's blood, the viscera, urine, and surfaces of the brain and cord.

In monkeys, subdural spinal inoculations with virulent strains of the B. influenzae were successful in most instances. The symptoms first developed about six hours after inoculation, and death usually occurred in from thirty-six to forty-eight hours. Lumbar punctures during the course of the illness revealed cloudy cerebrospinal fluid with increase in the polymorphonuclear leukocytes. Large numbers of influenza bacilli could be demonstrated, for the most part extracellular, although some phagocytosis was observed. Blood agar cultures never failed to develop pure growths of the organism, although cultural attempts on other media were never satisfactory or successful. The post mortem appearance of the brain and cord was typical of an acute purulent leptomeningitis with occasional foci of encephalitis.

Since the publication of the contributions of Wollstein in 1911 serve as a milestone in the history of influenzal meningitis, in that they gave us the most satisfactory proofs of the transmissibility of the disease to the lower animals including the monkeys, it may be well here to summarize such clinical facts as were satisfactorily proven up to and including that year. They are as follows:

(1). That the influenza bacillus is not an infrequent etiological agent in the production of acute leptomeningitis as suggested by Pfuhl in 1892, and satisfactorily proven bacteriologically by Fraenkel in 1898.

(2). That in most instances influenzal meningitis is but a part of a general influenzal bacteremia as evidenced by the observations of Slawyk in 1899, and corroborated subsequently by Bentz and Frye¹¹, Cohen, Davis and Wollstein.

(3). That this type of meningitis has a predilection for infancy and childhood, although adults are by no means immune. This is well demonstrated by the fact that of the first forty-

6. Cohen. *Ann. de l'inst. Pasteur*, 1909, xxii, 273.

7. Davis. *Arch. Int. Med.*, 1909, lv, 323.

8. Ritchie. *Jour. Path. and Bacteriol.*, 1910, xiv, 615.

9. Wollstein. *Am. J. Dis. Child.*, 1911, i, 42.

10. Davis. *Ibid.*, 249.

11. Bentz and Frye. *Women's Med. J.*, 1908, xviii, 73.

nine unquestionable cases reported, forty occurred in individuals two years of age and under.

(4). That the disease is highly fatal, only five of the cases above referred to having recovered.

(5). That the more advanced the age, the greater the percentage of recoveries. Of the five recoveries just referred to, one occurred in the only adult reported as having suffered from the disease, one occurred in a patient nine years of age, one in a seven-year-old child, and two in infants nine months old. Since the list was collected by Wollstein, Klinger¹² has reported another recovery in an adult. At this point it may be stated that these statistics include only those cases collected by Wollstein, in which the influenza bacillus was the only organism found. If her auxiliary list, in which the influenza bacillus was found in conjunction with other organisms, is included, it may be stated that with Klinger's case six cases of adults have been reported up to September, 1915. Two of these patients recovered. Klinger's case was one of unmixed infection; thus, if we exclude the ones of mixed infection, the only two adults reported have recovered. This would suggest that possibly a pure influenzal meningitis in an adult may permit of a much more favorable prognosis than when observed in earlier life, or when the meningitis is caused by two or more micro-organisms of which the bacillus influenzae is one.

(6). That the classical respiratory or gastrointestinal symptoms of influenza need not necessarily precede the meningitis proper.

(7). That, as indicated by the occurrence of the disease in twins five days old as reported by Davis, the period of incubation may be short.

(8). That the disease may occur sporadically and without apparent association with other cases of influenza.

(9). That the clinical symptoms in no essential manner differ from those of an acute leptomeningitis caused by the pneumococcus, streptococcus, and micrococcus intracellularis.

(10). That the bacillus influenzae may be demonstrated in stained smears obtained from the sediment of the cerebrospinal fluid. The organisms, which for the most part are extracellular, appear as typical short rods, as long chains, or as short thick bodies closely resembling cocci. The long chains, called by some the filamentous forms, seem to be strings of bacilli joined at the ends. All are Gram negative.

(11). That pure cultures may be grown upon blood agar, but not successfully upon other media.

(12). That a differentiation of strains cannot be satisfactorily brought about by agglutination reactions, and that opsonic and complement deviation tests are unreliable.

(13). That strains or organisms obtained from cases of influenzal meningitis are usually more virulent than those obtained from the respiratory passages of ordinary influenza victims.

(14). That mice and guinea pigs are susceptible to many respiratory strains of the influenza organism, but that rabbits and monkeys require, as a rule, inoculations of more virulent strains before a fatal issue can be brought about, those organisms obtained from cases of influenzal meningitis being the most uniformly virulent.

(15). That influenzal meningitis may be communicated by inoculation from human to monkey and from monkey to monkey.

A rehearsal of the foregoing facts, established by adequate experimental and clinical work, brings us to another milestone in the history of the disease, and again it is Wollstein who erects the scientific landmark. In her contributions to the literature in the year 1911, she reports the results of her work in producing immunity to the *B. influenzae* in the goat, and in obtaining therefrom an immune serum by means of which she treated successfully monkeys which had been inoculated with known fatal doses of the influenzal micro-organism.

It was found in her series of experiments that goats could, after eighteen months of gradually increasing successive inoculations with a virulent strain of the organism, be immunized, and that the goat serum, when administered subdurally within twenty-four hours after the monkey had been inoculated with a fatal dose, would bring about recovery. The control animals receiving the same dose, but not treated, died. After administration of the serum, it was found that the bacilli were more extensively phagocyted, that the numbers in the cerebrospinal fluid were reduced, that their capacity for growth was diminished, and that their migration into the blood was largely prevented.

In September, 1912, this same observer¹³ read a paper before the International Congress of Hygiene and Demography in which she briefly recounted her previous work, and in addition reported three cases of influenzal meningitis in the human in which the immune serum had been administered.

The first case was that of a three months old babe. The first administration of 8 c.c. of serum was made on the third day of the illness, and was

12. Klinger. Cor.—Bl. f. Schweiz. Aertze, Basel, 1912. xlii, 1289.

13. Wollstein. Tran. Internat. Cong. Hyg. and Demog., Wash., (1912), 1913, ii, 57.

followed twelve hours later by a dose of 15 c.c., both administrations being given intraspinaly. After the first treatment the temperature fell and the child seemed brighter, but after the second dose it died suddenly in collapse. The death was attributed to a too radical change in blood pressure resulting from the intraspinal injection.

The second case was that of a girl four years old, who evidently had been suffering from the disease for about two weeks before the treatment was instituted. Three 30 c.c. doses of immune serum were administered intraspinaly, but the case terminated fatally five days after the first administration or in the third week of the disease. The only benefit from the treatment noted in this case was a temporary reduction in the temperature and pulse rate.

The third case, a little boy thirteen months old, treated first on the third day of the illness, after two subdural injections of serum manifested marked improvement, especially with reference to the temperature and pulse rate, but died on the sixth day.

In 1913 and 1914, several cases of influenzal meningitis were reported by Pisek¹⁴, Klinger, Giese¹⁵, Ross¹⁶, Spillmann¹⁷, d'Hotel¹⁸, Ducrot¹⁹ and Springer²⁰, but none of these contributions have added any new features, either clinically or experimentally, to our previous knowledge. Giese rather emphasizes the relationship between influenzal meningitis and epidemics of influenza, and also speaks of the bizarre morphology of the micro-organisms found in the cerebrospinal fluid in his case.

Klinger, in reporting four cases, speaks of the

irregularity in the length of the bacilli found in the cerebrospinal fluid, and calls attention also to the fact that occasionally the micro-organisms have the appearance of cocci. This same observer reports the recovery in one case, that of the adult male previously referred to.

In reviewing the various therapeutic measures which have been applied in the treatment of influenzal meningitis, one is confronted with the fact that up to the present time all remedial and curative efforts have failed. Brem and Zeigler²¹ in summarizing the report of their two cases treated with hexamethylenamin conclude that their patients were not benefited thereby. It is a notable fact, in their second case, that permanent drainage through a needle left in the subdural space seemed to hold down the temperature as long as the drainage was free. Wollstein's immune serum, which is still in the experimental stage, in spite of the fact that her first three patients died, promises more in the way of treatment than anything heretofore offered. Two of her patients were treated early in the course of the disease, the other was well into the second week before treatment was begun. My patient did not receive the first subdural injection until the 13th day of the illness.

In view of the fact that this immune serum has cured monkeys when they were treated early in the course of the disease, and in view of the fact that it has been demonstrated that the mortality in the epidemic type of meningitis depends in a great measure upon how early the serum treatment is begun, it is only just to conclude that probably the same rule will hold true in the serum treatment of influenzal meningitis.

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14. Pisek. *Am. Med.*, Burlington, Vt. and N. Y., 1912, n. s., vii, 209.

15. Giese. *Ugesk. f. Laeger*, Kjbenh., 1913, lxxv, 621.

16. Ross. *Brit. M. J.*, Lond., 1913, ii, 1056.

17. Spillmann. *Province med.*, Par., 1913, xxiv, 433.

18. d'Hotel. *Clinique*, Brux., 1913, xxvii, 728.

19. Ducrot. *Rev. med. de la Franche-Comte*, Besancon, 1913, xxi, 195.

20. Springer. *Delaware State M. J.*, Wilmington, 1914-15, v, 1.

21. Brem and Zeigler. *Am. J. Dis. Child.*, 1911, i, 417.

Peritonitis

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THE subject of peritonitis is neither novel nor neglected—in the past few years the Index Medicus has annually listed an average of one hundred and twenty-five titles under this heading—but just this multiplicity of writers goes to show that the last word on peritonitis is far from being said. A much discussed subject represents unsatisfactory results, an unsolved problem, and it is no exaggeration to say that no surgeon is entirely satisfied with his results in cases of generalized or generalizing peritonitis. Statistics might be cited which apparently controvert this statement, Murphy¹ gives a mortality of only 4 per cent in a series of fifty-one cases, Deaver² 1.5 per cent in 118 cases. Grekow³, on the other hand, reporting a series of 902 cases from the Obuchow Hospital, gives a mortality of 63.3 per cent. A disease which demands a death toll of even 1.5 per cent to 4 per cent is worthy of the serious attention of the surgeon; where this mortality attains the colossal proportions of 63.3 per cent it challenges our attention, demands that the problem it represents be considered again and again.

The seeming incompatibility of a mortality of 1.5 per cent and 63.3 per cent in any considerable number of cases treated by men of preeminence in surgery cannot be passed over without comment. Local differences in the class of patients coming under the surgeon's care cannot account for it, neither can varying methods of treatment, endorsed and carried out by men of international reputation, nor can the honesty of the reports be brought into question. We may only conclude that the various authors are using the term "diffuse or general peritonitis" in widely differing senses. Forty-three of Murphy's fifty-one cases and all of Deaver's were of appendiceal origin and were operated upon within the first fifty hours; no mention is made of the results of treatment in the late cases. In Grekow's series, the cases are of varied origin and late ones predominate. In other words, Murphy and Deaver are discussing localized infections in the peritoneal cavity with symptoms of general peritoneal irritation, while a large number of Grekow's cases are those of more or less diffused peritonitis. Deaver points out that it is not possible to dis-

tinguish between a diffusing and a diffused peritonitis, and there can be little doubt that the term diffuse or general peritonitis has been too loosely applied. Every surgeon sees proof of this in cases which have run a stormy course under a diagnosis of general peritonitis but go on to recovery under conservative treatment and then come up for late operation. As a rule the pus is walled off from the peritoneal cavity, which may or may not still contain remnants of an inflammatory exudate, and the surgeon drains an appendiceal abscess. It is the exceptional case when multiple pus pockets are found throughout the abdomen, though multiple abscesses should be the constant sequent of a generalized infection within the abdominal cavity. Even in these cases we may not assume that every part of the peritoneum, has been involved, for to me it is inconceivable that an area of serosa approximately equal to that of the skin, and possessed of unusual absorptive powers, could be bathed in infection without calling forth a fulminating toxemia. In other words, the fact of recovery in itself seems to rule out the possibility of a universal peritonitis in the widest application of that term. I believe that a true universal peritonitis is always fatal, that the patient who recovers had a localized peritonitis with general peritoneal irritation, and not a generalized infection.

I would not be misunderstood. I am not a fatalist and have no intention of recommending that you leave the probable peritonitis victim to his fate in the belief that if, perchance, he has a generalized infection he is doomed, or if a localized one, a late drainage of the abscess will suffice. A recognition of the essential differences between the early cases of localized infection with generalized irritation, which are commonly reported as general peritonitis and which yield such gratifying operative results, and the late cases of generalized infection, true diffuse peritonitis, which give a mortality we seldom find recorded in the literature, teaches a very different lesson and one which cannot be too forcibly brought home: *the treatment of peritonitis must be prophylactic, not therapeutic*. In the majority of cases better results are not to be anticipated from improved technic, but from prophylaxis and from prophylaxis alone. The simpler the operative procedure the better the prognosis, but in the last analysis it is *when* far more than *how* you operate that determines the fate of your patient.

1. Murphy, J. B. Treatment of perforative peritonitis. Ann. Surg., Phila., 1908, xlvii, 870.

2. Deaver, J. B. Diffuse peritonitis. Ann. Surg., Phila., 1909, l, 1303.

3. Grekow Beitrage zur Behandlung der diffusen eitrigen Peritonitis. Beitr. z. klin. Chir., Tuebing., 1914, lxxxix, 291.

In a series of 500 cases of acute appendicitis in my own practice, the peritoneum was involved to a greater or less degree, as evidenced by the extent of the inflammatory process and the presence of a secropurulent exudate in the early cases, by abscess formation in the late ones, in 198 patients, or approximately 40 per cent of the entire number of cases. One hundred and twelve of these cases came under observation more than fifty hours after the onset of the attack; four of these were moribund and died without operation, leaving a total of 108 cases. Three of these died, a mortality of 2.7 per cent. In the 388 cases which came up for early operation—this includes 86 cases in which there was evidence of a diffusing peritonitis—there was a single death, a mortality of one-fourth of 1 per cent. The mortality of the first group is thus eleven times that of the second; no words in support of the prophylactic treatment of peritonitis could equal the eloquence of such a comparison of statistics. Considering the 500 cases as a single group, including the four cases which died without operation, there were eight deaths, or 1.6 per cent.

But it is not the good fortune of the surgeon to see all of his patients within the first few hours after the onset of their illness; many come to him after the period of early operation has passed. The decision for or against late operation is second only in importance to the vital issue of early prophylactic operation, and the manner in which the individual surgeon answers the question accounts in part for the wide variations in operative results. The operative mortality when all peritonitis cases are subjected to immediate operation, regardless of the stage of the infection was 64 per cent in the hands of Trendelenburg⁴, 68 per cent in Hirschel's⁵, 63.3 per cent in Grekow's³, 45.5 per cent in Koerte's⁶, 18 per cent in Rehn's⁷, whose statistics are on cases of appendiceal origin only while the others are based on cases of varied etiology. To confine immediate operation to early cases, giving the late cases expectant treatment until operation becomes advisable, is an American procedure and statistics on the results of this treatment in late as well as in early cases are not readily available, those of Deaver and Murphy being limited to those operated within the

first fifty hours. In Ochsner's⁸ clinic the mortality has dropped to 2.1 per cent in cases of appendicitis, including a large percentage of late cases. Here again statistics offer incontrovertible evidence—expectant treatment with late operation gives incomparably better results in all cases which have passed the early stages. Early operation has been the most potent factor in lessening the mortality from peritonitis but the scientific differentiation of the operative from the non-operative case is second only to it. In 1892, at a time when the operative treatment of peritonitis had come to be an accepted surgical procedure but recoveries were still surgical anomalies, Ochsner first introduced a successful conservative treatment: the withholding of all cathartics and all food by mouth, gastric lavage, rectal feeding, and interval proctoclysis. The method was slow in finding recognition but its gradual adoption was recorded in the corresponding fall in the death rate. The introduction of postural treatment and continuous proctoclysis marked another great advance in the treatment of abdominal crises.

Some one has termed the present day treatment of peritonitis anatomical and biological—Fowler's position and Murphy's drip. The diaphragm is a network of lymphatics, branched and rebranched, lying one above the other, and since it is through the lymph channels that corpuscular absorption chiefly occurs, the importance of excluding the diaphragm from the field of infection is readily understood. To achieve this end Fowler recommended the sitting posture, and while it is probably true that it has been exaggerated and too long protracted, preceding operation and for two or three days thereafter, it is indispensable. I have found that raising the head of the bed, thus putting the patient upon an inclined plane, gives the same results and with much less discomfort to the patient. It has been urged that the formation of adhesions soon renders the Fowler position useless. The early formation of adhesions limits the spread of infection, and it is possible that in these cases postural treatment plays a less important part; where the organism is waging a losing fight such adhesions are not rapidly formed and I am convinced that the inclined position often turns the tide of battle in the right direction.

The peritonitis patient needs water—water to quench the insatiable thirst, to supply the drained tissues, to dilute the rapidly formed toxins and irrigate and drain the peritoneum—yet positively nothing should be permitted by mouth. This rule should be absolute for Ochsner's starvation treatment ranks with Fowler's position and Murphy's

4. Trendelenburg, F. Ueber die Operationsresultate bei der vom Wurmfortsatz ausgehenden Peritonitis in der Leipziger chirurgischen Klinik. Deutsche med. Wchnschr., Leipz. and Berl., 1904, xxx, 615.

5. Hirschel, G. Die Behandlung der diffusen eitrigen Peritonitis. Muench. med. Wchnschr., 1910, lvii, 779.

6. Koerte, W. Erfahrungen ueber die chirurgische Behandlung der allgemeinen, eitrigen Bauchfellentzuendung. Arch. f. klin. Chir., Berl., 1892, xlv, 612.

7. Rehn. Cited by Propping. Die gegenwaertige Erfolge bei der chirurgischen Behandlung der freien eitrigen Wurmfortsatzperitonitis. Beitr. z. klin. Chir., Tuebing., 1911, xciv, 163.

8. Ochsner, A. J. A new Manual of Surgery. 4th edition. Chicago, 1915.

drip as an epoch-making advance. The constant administration of water per rectum makes possible the withholding of all fluid per os. Both are unique among therapeutic measures in as much as there would seem to be no contra-indications to their use. Two salient features of the Ochsner treatment are too often disregarded—gastric lavage and the prohibition of all cathartics.

I have mentioned these three essentials of conservative treatment before entering into my discussion of operation because they are indicated in all cases, operative and non-operative, as soon as the patient is seen and after operation. Every case of early appendicitis, of perforation of stomach, bowel or gall-bladder, of ruptured cyst, or pus tube—in short every pre-peritonitic case should be operated upon at once, the earlier the better. The danger to the patient increases with the passage of each hour, but after the lapse of a certain time he has a better chance if operation be postponed, the peritoneum left to fight its own battle. In these cases the Ochsner-Fowler-Murphy treatment must be continued until the stormy symptoms subside. In operative cases, this treatment forms the salient feature of the post-operative care.

The period after which operation is contra-indicated has been arbitrarily fixed at fifty hours, but in reality no such hard and fast rule can be given, and it is the condition of the patient, not the hands of the clock which must determine the time limit for operation. When rigidity and tenderness have become universal, when distention is marked, the pulse too rapid for the temperature, the skin cyanotic and damp, the time for operation has passed. Deaver has very effectively divided these late peritonitis cases into two groups—those in which the patient is holding his own and operation may safely be delayed, and those in which the patient seems overwhelmed by toxemia and is unable to withstand operation.

Early operation demands early diagnosis. The academic symptoms of peritonitis are known to every medical student and by the time he enters practice they are as familiar as the alphabet: abdominal distention, board-like rigidity, abdominal facies, nausea, vomiting, and thready pulse. These symptoms of peritonitis are classical, they need no explanation, no defense, but they are symptoms of late peritonitis, signs that the patient has passed the period in which operation offered almost certain recovery, and has left only a fighting chance. True early symptoms are far less familiar and are not of such striking aspect.

Before the development of abdominal distention the abdomen is often slightly contracted.

Palpatory findings are of greatest importance before the development of a board-like rigidity. But palpation is perhaps too energetic a word to be applied to the gentle manœuvre necessary to elicit beginning rigidity. The flat of the hand is laid upon the abdomen so gently as to cause the patient no pain. The beginning rigidity is then clearly manifest to the careful observer, its upper border coinciding with the height of the exudate within the abdominal cavity. Kotzenberg⁹ asserts that in this manner it is almost invariably possible to determine the exact extent of fluid before operation. But great gentleness, the avoidance of all pressure is absolutely prerequisite. This rigidity is not pathognomonic of peritonitis; it signifies only an inflammatory exudate within the peritoneal cavity i.e. peritoneal irritation, but taken with certain other early symptoms, it is sufficient to justify—more—imperatively to demand operation.

Another early symptom which we are inclined to overlook is the condition of the tongue, an indication to which Hirschel attaches the greatest importance. The dry tongue of late peritonitis, thickly coated and cracked, is familiar to us all, but in the early stages this dryness is not extreme. It begins on the edges and extends towards the center. The tongue is but thinly coated and there are no cracks.

A recognition of the abdominal facies goes back to the time of Hippocrates, and has long been synonymous with an abdominal crisis. But before the development of the typical Hippocratic expression, the close observer may detect a slight deepening of the lines of the face, an expression of tenseness though not necessarily of suffering. Coupled with this there is a certain vague restlessness and disquiet, too vague to be readily described but of too grave import to be overlooked by the careful clinician.

Four other classic symptoms—nausea, vomiting, fever and pain—may also be of too late occurrence to afford an opportunity for prophylactic treatment if diagnosis is to await their development. Before nausea and vomiting occur, however, diarrhoea is sometimes present, while vesical and rectal tenesmus are still other portentous early symptoms. It is a grave error to suppose that the absence of fever precludes a perforation or even peritonitis. Fever is often absent, not only in the early stages but even after the passage of considerable time. The patient may also be free from pain, not only immediately following a perforation but even throughout the course of the disease.

9. Kotzenberg, W. Unsere Behandlung der eitrigen diffusen Perforations peritonitis. Beitr. z. klin. Chir., Tuebing., 1914, xciv, 34.

It is the general practitioner upon whom the greatest responsibility falls in these cases. When he sees a patient with beginning abdominal rigidity, a slightly lined face, a drying tongue, rectal and vesical tenesmus, sometimes diarrhoea, perhaps nausea and vomiting, it is time that the surgeon be called into consultation, it is at this stage that surgery represents prophylaxis and not a last sacrament.

The technic of these operations is simple—in brief, they should represent the maximum of speed and gentleness, the minimum of eventration and meddlesome interference. The incision should give the best access to the focus of infection and should be a generous one to give a good field of vision—this is not the time to demonstrate one's skill in operating through a two inch incision. The field of operation is walled off with large sponges, the focus of infection cared for, and the incision closed down to the drainage. One or more large tubes are placed in the pelvis to carry off the fluid which gravitates there.

Irrigation of the peritoneal cavity has been warmly recommended but personally I believe such irrigation to be dangerous and absolutely to be condemned. It spreads infection to parts of the peritoneum until then free, it washes away the protective fibrin covering, thus increasing absorption, and finally, since it is never possible to determine by inspection whether we have to do with a simple inflammatory exudate or with a true purulent fluid, we may well question whether we are not taking from the peritoneum one of its defensive measures.

The importance of saline solution, intravenously and more particularly by rectum, has already been emphasized. It irrigates the peritoneum in a far safer and more effective way than can any bungling effort of the surgeon. The postural and starvation treatment is continued, heart stimulants are administered as required, and the patient given a fair chance to get well.

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Tender Pylorus With Ptosis

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NEARLY all practicing doctors of medicine have more or less experience with a class of patients, usually somewhat emaciated females, who visit the office seeking relief for rather indefinite abdominal pains. Physical examination reveals nothing of importance except a point of moderate tenderness somewhere on the right side of the abdomen. This tenderness is

of improvement following the operation, and then an invariable return of all symptoms, often in an aggravated form.

During the past years I have had opportunity to observe a number of patients belonging to the above class, and because I have found a constant pathologic condition present, and also because a rational treatment has produced grati-

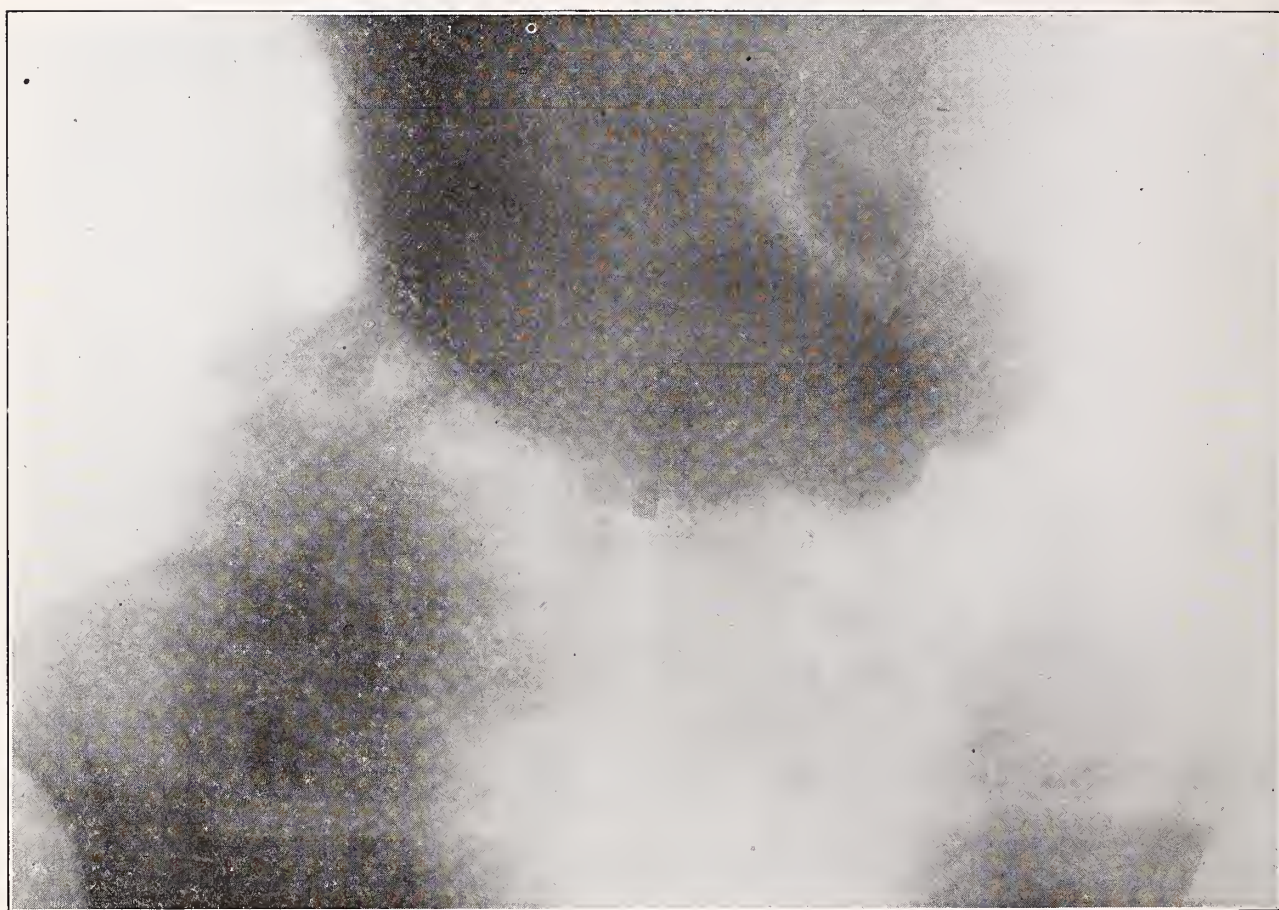


FIGURE 1

Skiagraph showing normal position of pylorus

frequently located at McBurney's point. The clinical history of these patients is often interesting. Their trouble is, as a rule, of years' standing. Most of them have had at least one operation, and many, two or three. The appendix is the organ most frequently sought by the surgeons, and the removed appendage is usually described by the operator to the patient as being of the "interval type." Often, too, a normal gall-bladder has been drained; or, again, some pelvic tinkering has been done. The after result from surgical interference is about the same, no matter what the operation happened to be, viz., a period

of improvement following the operation, and then a return of all symptoms, often in an aggravated form.

Case 1. M. S., female, age thirty-eight, teacher. The family history is unimportant except that her relatives are long lived. She has had no serious illness. She was married at twenty-four; no miscarriages, one child at twenty-eight who is still living. Her husband died eight years ago; since then she has been teaching in high school. Six years ago she began to have pains in the stomach; these were associated with loss of weight, pain in the right side and constipation. All food caused distress and she frequently vomited four or five hours after eating. All of her symptoms gradually grew worse. In or-

der to obtain relief she greatly restricted her diet. A year after the onset of her trouble a diagnosis of chronic appendicitis was made, and the appendix was removed. This was followed by a brief period of improvement, but when she returned to work the old symptoms gradually came back. The pain in the right side was particularly annoying. A year following the first operation her condition was diagnosed as ovarian trouble, and she was again operated upon. At this time the right tube and ovary were removed. She then rested for a year and again went back to her work, but before the close of the school year her previous symptoms had returned.

The patient is a small emaciated nervous woman.

placed upon a liberal diet of coarse vegetables with a generous amount of meat once a day. This food caused her no more distress than the light diet had done. Prepared agar was administered after every meal and liquid petrolatum was given at night. A tight fitting corset with suitable pads over the abdomen was then adjusted. This gave her an immediate sense of relief.

At the present time, a year after the above treatment was instituted, the patient has gained ten pounds and is doing her work without extra fatigue. While many of her old symptoms are present she feels much improved.

Case 2. R. B., male, aged forty-eight, a grocer by

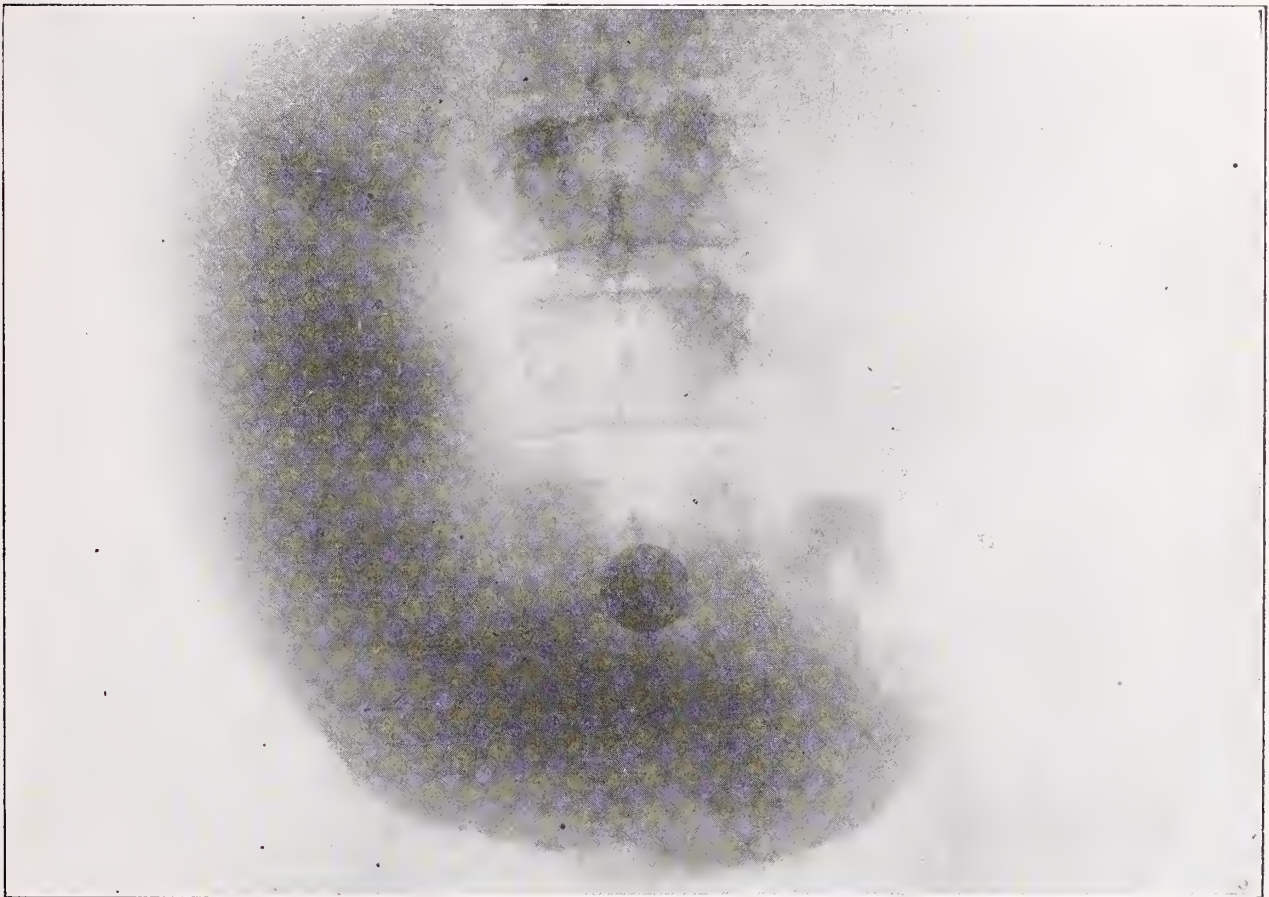


FIGURE 11

Skiagraph of case I showing stomach markedly ptosed with pylorus at McBurney's point

The lungs and heart are negative. Her blood pressure is 120; urine is normal; hemoglobin 80 per cent., no leukocytosis present. Analysis of stomach contents aspirated after test meal shows: Free hydrochloric acid, .05; total acidity, .20. There is no blood in the stomach wash or stools. (A second examination revealed nothing further.) X-ray examination shows the pylorus to be on a level with the brim of the pelvis while the patient is standing or lying. It is very sensitive to palpation. When the body is inclining with the head down, the sensitive pylorus can be seen and palpated under the right costal margin.

A diagnosis of spasmodic and hypersensitive pylorus due to general ptosis was made, and she was

occupation. The family history is unimportant. He has had no serious illness, but has been obliged to take a vacation from time to time on account of nervousness. In the last four or five years he has grown exceedingly thin, and during the last two years his digestion has been so poor that he has taken scarcely any food. He never eats breakfast and takes bread and milk, or crackers and milk, for lunch, and soup with cereals for his evening meal. He complains of acid eructions, but has never vomited, and of pain in the lower right abdomen.

The patient is greatly emaciated; heart and lungs are negative; hemoglobin, 70 per cent., while blood cells, normal. The abdomen is negative except that it is very tender over McBurney's point. Examina-

tion of the stomach contents shows free hydrochloric, .10 with a total acidity of .45. The Weber is negative and the motility of the stomach is poor. The X-ray shows a visceroptosis with the pylorus located at McBurney's point.

In this case duodenal ulcer and appendicitis were excluded because there was not sufficient evidence to suggest either one. A diagnosis of hypersensitive pylorus was made. Proper stays, made to order, were applied and the patient given large doses of hydrated magnesia, two hours after meals. He was encouraged to eat liberally, but he had considerable difficulty in managing a full diet largely because of fears. It was found impossible for him to take fruit

ent he has constant pain in the right side. He is easily fatigued. The general examination is negative. The blood and urine are normal. The stomach contents show: free hydrochloric acid, .40; total acidity, .65. Blood is absent and no blood can be demonstrated in the stools. By the fluoroscope, the pylorus is located at the level of the pelvic brim. It is sensitive to palpation.

A diagnosis of hypersensitive and spasmodic pylorus due to general ptosis was made, and the usual treatment prescribed. But the patient followed the directions indifferently, neglected to take the alkaline bismuth mixture until the distress was very acute, and, as he found the stays rather un-

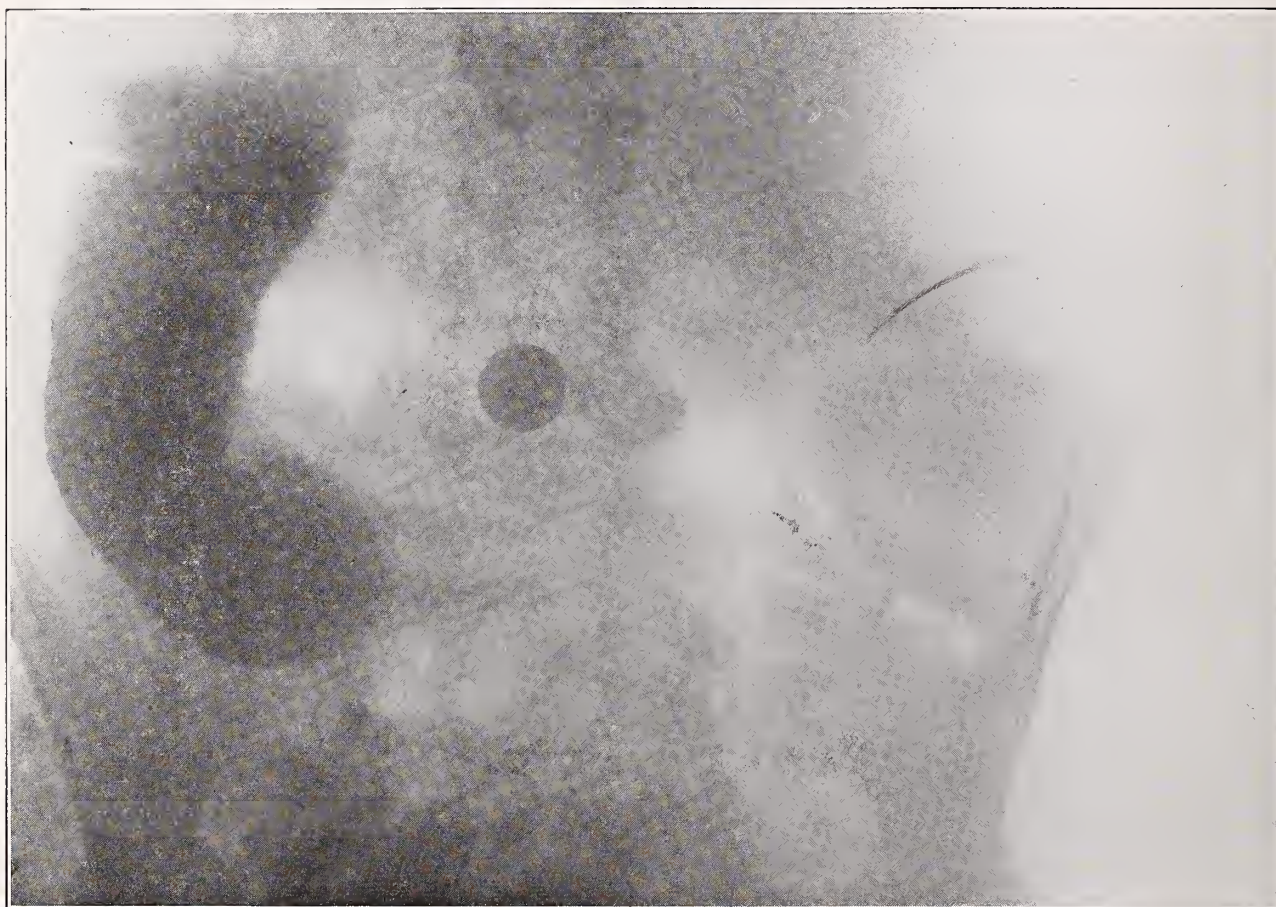


FIGURE III

Skiagraph of case 8 showing the pyloric part of stomach well within the pelvis

in any form. Hence, he was given the coarser vegetables with an abundance of meat. Six months later he is eating three meals a day, has gained weight, has no attacks of pain, and has lost his nervousness.

Case 3. A. H., male, aged thirty-two, a lawyer. The family and personal history are unimportant. He has always worked hard: early in life, physically; later, mentally. He has never been sick with exception of one attack of dysentery four years ago at which time he was confined to bed for about a week. He dates his sickness from that time. He now complains of abdominal sensitiveness and pains. The pains come on at irregular intervals and bear no relation to foods. For some time past he has restricted his diet to bread and cereals, a few vegetables and milk. At the pres-

comfortable, he never wore them constantly. During one year of observation there were periods of improvement but no permanent gain.

Since the diagnosis of appendicitis had been previously made he submitted to an operation. A normal appendix was removed and the pylorus, gall-bladder and stomach were found normal except for the fact that a profound ptosis was present. Since this operation the patient has been more faithful to treatment and has been improving rapidly.

Case 4. L. O. H., female, aged fifty. She is married and is the mother of five children. The family history is unimportant. She had typhoid fever at twenty; from that time until ten years ago she enjoyed good health, when painful indigestion made its

appearance. She has been very guarded in her diet ever since. She is now fifteen pounds below her previous weight; she complains of pain in the stomach and abdomen associated with attacks of vomiting. Five years ago her appendix was removed; three years ago her gall-bladder was drained and two years ago she had a complete hysterectomy. Each operation was followed by a period of improvement after which her former symptoms reappeared.

The general examination is negative. The blood and urine are normal, but an examination of the stomach contents shows a large residue twelve hours after eating. An aspirated test meal contains a

been nervous but has never had any serious illness. During the last two years the abdomen has been so sensitive that the slightest pressure produced pain; this condition was general throughout the entire abdomen. She sleeps very poorly, has attacks of hysterical crying.

The patient is markedly emaciated. The heart and lungs are normal; the pelvic organs are unchanged, and the blood and urine are normal. Examination of the stomach contents shows: no free hydrochloric acid; total acidity, 6.5 the motility is poor. A large amount of residue remained in the stomach for more than twelve hours. X-ray examination shows marked general ptosis, the stomach and colon both



FIGURE IV

Skiagraph of case 10 showing a large part of stomach within the pelvis and the pylorus at McBurney's point

trace of free hydrochloric acid with a total acidity of .35. The guaiac test is negative both in the stomach contents and in the stools. The X-ray examination shows the stomach completely within the pelvis. The pylorus can be seen and palpated below the pelvic brim. It is very painful.

Her condition was also thought to be due to hypersensitiveness and spasm of the pylorus. She was put on the usual treatment and has experienced marked relief. The digestion is greatly improved and attacks of vomiting do not occur.

Case 5. P. F., female, aged fifty. She is married and has had no children. Two sisters died of tuberculosis, and her mother, of insanity. Her father and two brothers are in good health. She has always

being within the pelvis, and the fundus of the stomach within the culdesac. Palpation of the pylorus elicited very excruciating pains.

The patient was put on the usual treatment, viz., large amounts of agar and liquid petrolatum and forced feeding of coarser foods, with no fruits. One year later, she has gained twenty pounds, has been able to take long automobile tours and is feeling fine.

Case 6. M. S., male, aged thirty-eight, book-keeper. The family history is unimportant. He has had no serious illness, except jaundice five years ago, which never recurred. For the past three years he has been in, what he terms, "failing health." He now presents himself complaining of painful diges-

tion. The taking of food always produces pain, and he is never entirely free from pain in the stomach. He has acid eructations, constipation, and pain and soreness in the lower right abdomen. The symptoms are worse when he is fatigued.

The general examination is negative. Examination of the stomach contents: free hydrochloric acid, .02; total acidity, .05; motility, poor; residue in stomach twelve hours after taking food. There is no blood in the stomach washings or in the stools. X-ray examination shows the pylorus to be below the level of the pelvis brim. The pylorus is very sensitive.

The patient continued treatment for two months but did not improve; an operation was advised by a colleague. This was done. A normal appendix was removed. The bladder, pylorus and stomach were normal. The patient is still under observation.

Case 7. E. W., female, age twenty, farmer's daughter. The family history is good. Her past history is unimportant except that she had return attacks of appendicitis, for which she was operated upon two years ago. She still has the same kind of attacks.

She presents the classical symptoms of this kind of trouble, viz., dyspepsia, pain, and sensitiveness. X-ray examination reveals gastropsis the sensitive point being the pylorus.

Under faithful treatment there has been but slight improvement. A period of intermission extending over one or two weeks is invariably followed by a period of discomfort. The patient has gained some weight owing to increased diet. She is still under observation.

Case 8. W. K., female, aged fifty-six. She is married and has had seven children all of whom are living. Two brothers and three sisters are living; one sister died in the insane hospital. She has never been strong; had an attack of typhoid fever when young, but no other serious illness. Her present trouble is dyspepsia, extreme nervousness, insomnia of the most persistent type, and marked constipation. She is unable to take any but the lightest food, and has pains in the stomach and abdomen.

The patient is greatly emaciated. There are no other physical findings. Examination of stomach contents shows: no free hydrochloric acid; total acidity .65; motility, poor; stomach does not completely empty itself. X-ray examination shows an extreme degree of ptosis with the pylorus well in the pelvis, and very tender to palpation.

The diagnosis of hypersensitive and spastic pylorus was made. The patient refuses to wear a corset as she has never worn a corset in her life. With large doses of liquid petrolatum and agar, together with lavage of the stomach, she is able to take more nourishment and has experienced some improvement, a slight gain in weight, and is able to sleep without hypnotics.

Case 9. C. C., female, widow, no children. The father died of tuberculosis. The mother, brothers and sisters are all living. The patient has always been well. She has never had any serious illness

until the death of her husband, five years ago. Since then she has had poor digestion, pain in the right abdomen and acid eructations. She has restricted her diet to the lightest kind of food, and washes her stomach every other day by means of a stomach tube in order to be able to take nourishment.

All of the examinations are negative except the X-ray findings, which show the painful point to be the pylorus of a gastropathic stomach.

This patient was given a suitably fitted corset with pads over the abdomen. She was taken off the stomach tube, given a rational diet and plenty of out-door exercise, and is now enjoying perfect health.

Case 10. A. J., female, aged twenty-four, stenographer. One sister has pulmonary tuberculosis, two other sisters and two brothers are well. She has never been ill, but since she took up stenographic work three years ago, she has had more and more stomach trouble; she has lost weight; and is unable to eat substantial foods. She has had no attacks of vomiting and no severe pain, but she complains of constant soreness at McBurney's point.

The physical examination and laboratory findings are negative except for a tender spot at McBurney's point. The X-ray examination reveals the tender place to be the pylorus which is located at this point.

The usual treatment gave immediate relief; the patient has gained weight, is able to take regular diet and the painful point has disappeared.

This last case is typical of a great many seen. The young woman takes up office work, restricting her exercise, and is subject to nervous strain and fatigue. She often subsists on insufficient midday meals. As the years go by she acquires the type of dyspepsia illustrated in this case. I have seen within the past ten years a great many of this type of patients. As a rule there is no organic foundation for their troubles. Many have had various operations, such as hysterectomy, appendectomy, etc., usually with no relief, often with positive harm. The essential points in treating this class of patients are sufficient out-door exercise, a guarded liberal diet, and properly fitted corsets.

The most striking pathologic condition present in all the above cases is a marked splanchnoptosis. It is pretty well established now that a congenital weakness is present in all cases where ptosis occurs, for persons may be born with weak visceral slings, just as a weak circulatory system or a defective abdominal wall may be congenital. When, in such persons, the general tonus of the body is reduced either through disease or through an overdraft on the nervous energy in a more direct way, the visceral supports give way and the organs begin to sag downwards. This leads to interference with the work of the intestines and symptoms of indigestion appear. This, again,

produces a further downward displacement of the organs so that a vicious circle is established, in that ptosis produces dyspepsia and dyspepsia more ptosis. The condition is further aggravated by the development of a "food-phobias" for the patients believe that their digestive troubles are due to some of the food they take. Hence, they proceed to eliminate from their diet some of the essential foods, and when relief is not obtained they further retrench on their nourishment. The final result is that the organs fall back into their embryonic locations.

It seems to me that the tender spastic pylorus, observed in these cases, can be best explained on an anatomic basis. The stomach is hung hammock-fashion from two rather fixed points. At the cardiac end it is suspended from the esophagus, securely fastened to the diaphragm and mediastinal tissue; at the other end the duodenum is more or less firmly anchored by the peritoneum, the blood vessels, and nerves. When the sagging takes place, a kink is formed beyond the pylorus and the more pronounced the ptosis the acuter the kink becomes. In this way a partial obstruction is produced at the pylorus, and this causes the abnormal retention of food present in most of these cases.

The gravitation of the pylorus further kinks the blood vessels, especially the veins, producing an interference with the circulation so that a passive congestion of the pylorus occurs, and this with the abnormal irritation of the nerves supplying this part of the stomach causes a tender and spastic pylorus.

The decrease of visceral function manifested by lessened acidity of stomach and constipation is probably as much due to general lack of tone as to the ptosis.

It is quite apparent that cases of this type have not hitherto received the attention due them in the differential diagnosis of abdominal pain. They also illustrate the value of roentgenology in diagnosis of disease in the abdomen. Once the diagnosis is made, the treatment almost suggests itself. It must be directed towards removing the exciting cause of the ptosis. (Special pains were taken to exclude tuberculosis in the cases reported.) Then all possible support is given to the displaced organs in the form of individually fitted corsets with pads, and the lost vigor is replaced by plenty of nourishing foods containing substances which stimulate peristalsis and give the musculature of the intestines something to take hold of.

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Vaginal Cesarean Section

Indications For; With a Report of Four Cases

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THE operation of vaginal cesarean section or colpohysterotomy was devised by Dührssen of Berlin, in 1895. In spite of the fact that many articles, urging the advantages of the operation, have appeared in the literature in the last twenty years, it has not been applied in the practice of obstetrics with the frequency that its indications should demand. The reason for this, I believe, is that a great many men having large obstetric practices, are unskilled in surgical procedures, and are content to use the older methods of delivery per vaginam, viz.; instrumental and manual dilatation or cervical incisions, followed by high forceps or version through a partially dilated cervix, with craniotomy as a last resort. Many times when it is deemed unwise to attempt a vaginal delivery, or such an attempt has proven unsuccessful a general surgeon is called to perform his one obstetrical operation, abdominal cesarean section.

The object of a vaginal cesarean section is, to deliver the child through the undilated cervix rapidly, with the greatest safety to both mother and child. Under ordinary circumstances the fetus can be delivered in from ten to fifteen minutes and the whole operation completed in thirty minutes. It is accomplished by an incision of the anterior and posterior vaginal walls, exposing the anterior and posterior surfaces of the cervix, so that an incision may be made in the exact median line anteriorly and posteriorly up to the peritoneal reflections. Through the opening thus made the fetus is delivered either by forceps or version.

The conditions which must be present for the performance of vaginal cesarean section are; first the pelvis must be large enough to permit the passage of the child, and second the child must be living. It is permissible to do a section when the fetus is dead if the condition of the mother demands immediate delivery. There should not be too much edema of the cervix and vaginal walls, as is occasionally present in nephritic toxemia and eclampsia.

The indications for vaginal cesarean section are all grouped around the one finding, a closed cervix, and may be divided into three heads, viz.:

(1) Where the cervix is rigid and difficult or impossible to be effaced and dilated by uterine contractions.

(2) Where the cervix is rigid and the moth-

er's life is in danger and demands immediate emptying of the uterus.

(3) Where the cervix is rigid and the condition of the fetus necessitates rapid delivery.

The reasons why the cervix remains rigid and unyielding in the presence of strong labor pains, can in a great majority of cases be traced to some definite pathologic lesion. An examination of the cervix may show new growths such as carcinoma, fibroma or tuberculosis. While these cases are rare, a rather large number of them appear in the literature. More frequently cicatrices caused by operations upon the cervix and scar tissue following spontaneous healing of a much lacerated cervix, are responsible for the rigidity. It is known that chronic long continued endocervicitis gives rise to a much thickened cervical wall which is not easily dilated. Malpositions of the cervix due to abnormal positions of the uterus following operations for retrodisplacement or other pelvic disease may make dilatation of the cervix a mechanical impossibility. Pelvic inflammation or tumors can produce the same results. There is also a class of cases in which dilatation does not take place in spite of good uterine contractions, where it is impossible to detect any pathologic lesion that will account for the unyielding condition of the cervix.

All acute conditions on the part of the mother arising before the cervix is dilated are considered indications for vaginal cesarean section. Most common of these is eclampsia. It is in the treatment of this complication of pregnancy and labor that vaginal cesarean section finds its largest field. In the cases where the convulsions occur before term it is always the operation of choice. At full term the choice of operation lies between the vaginal and abdominal routes. Peterson and Williams are strongly in favor of colpohysterotomy. When convulsions occur after labor has been in progress for a number of hours, and the cervix is still rigid, it is safer to avoid infection by resorting to a vaginal section.

In nephritic and pre-eclamptic toxemia where the patient fails to respond to medical treatment, and a premature delivery is determined upon, vaginal cesarean section is preferable to the slower forms of cervical dilatation. Where it is desirable to conserve the strength of the mother, as in heart disease, tuberculosis, pneumonia and pulmonary edema, a vaginal cesarean section un-

der local anesthesia may be done with very little pain and shock.

Placenta previa has been given as an indication for vaginal hysterotomy, but at the present time is not considered safe. However, if the attachment of the placenta can be definitely located as not in the line of the anterior incision a vaginal section may be safely performed.

The indications on the part of the fetus, arise, when during prolonged labor signs of asphyxia in utero are detected, and the cervix is rigid and unyielding. Early prolapse of the cord may also call for this operation. With a more careful watch of the fetal heart tones and the more frequent use of vaginal cesarean section fewer babies will be born dead.

The technic of vaginal cesarean section is so definitely determined with practically no modifications, that it is unnecessary to consider it in full here. However, I wish to call attention to the preliminary dilatation of the introitus. This can be rapidly done by the hand at the beginning of the operation, and completed by the assistant who holds the retractors during the operation, and exerts careful traction in various directions without interfering with the rapidity of the work. If this method is followed, few perineo-vaginal incisions will be necessary. Too much care can not be taken in placing the incision in the median line and extending it as far up as is consistent with safety. If this is borne in mind, hemorrhage will be avoided. In this procedure as in other major obstetric operations the packing of the uterus insures absolute safety from hemorrhage and should always be done.

Vaginal hysterotomy is technically more difficult, and there is more danger of injury to the mother, if not properly performed, than is abdominal cesarean section. However, where the indications, as given, are present, vaginal cesarean section is the operation of choice.

The following is a report of four cases:

Case 1. Mrs. I. R., June 29, 1913, age twenty, para one, date of expected labor July 6th. Family history negative. Previous history: she has had measles, mumps, and many attacks of tonsilitis every year since childhood. She had acute articular rheumatism five years ago; the menses began at the age of fourteen and are normal. While about the house at work, the patient had a convulsion, and was found unconscious on the floor.

The examination shows that the patient is conscious and complains of feeling nervous and of having a ringing in the ears, also of pain in the epigastrium. There is marked edema of the feet, legs and face. Mitral insufficiency is present; pulse is 108; temperature, 98; and respirations, 26; blood pressure registers 184. By catheterization an ounce

of urine was obtained, and this contains a large amount of albumin, hyaline and red blood casts.

Ether anesthetic was given and vaginal cesarean section performed in twenty-six minutes. She was delivered of a female child weighing six and three-quarter pounds, in good condition. There were no further convulsions; edema disappeared rapidly, and on the 6th day no albumin was found, and the blood pressure had returned to 128. Both mother and child are in good condition at present.

Case 2. Mrs. B. C., December 4, 1914, age forty, para seven, date of expected delivery January 2, 1915. Family history is negative. Previous history: patient had scarlet fever of severe type at the age of twelve. She had acute articular rheumatism at the age of eighteen and again at twenty-two; at the age of twenty-five she had an attack of malaria. Obstetrical history: five children alive and well, youngest five years old. First three labors normal, last two delivered by forceps. Three years ago spontaneous miscarriage occurred at about the fifth month. At that time there was much swelling of the feet and legs, and she suffered from shortness of breath. A year and a half ago she was delivered of a six months child labor coming on spontaneously. At that time she also had shortness of breath, edema and headaches. Patient has not felt well for past two months. Complaints of shortness of breath, swelling of the feet and legs and has vomited much during the past week. Bowels constipated and appetite poor.

The examination shows a large, flabby, anemic woman unable to lie down in bed on account of shortness of breath. The heart is greatly enlarged; mitral insufficiency is present; pulse is irregular, rate 112; feet and ankles are swollen; blood pressure is 210. The urine shows a small amount of albumin and an occasional granular and fatty cast. A Voorhees' bag was introduced and pains began two hours later, becoming very violent in five hours. The cervix remained rigid and hard and showed no change five hours after the bag was introduced in spite of the severe labor pains. It was deemed advisable to save the mother further labor and a vaginal cesarean section was done. Mother and child were both discharged in good condition.

Case 3. Mrs. F. B., Italian, age thirty-eight, para eight, five living children, three having died in infancy, cause not known. No history obtainable.

The examination shows that the patient is pregnant about seven months. Feet, ankles, legs, hands and face edematous; pulse is 120; temperature is 98½; respiration 30; blood pressure registers 220. The urine is scanty, loaded with albumin and has many granular casts. The heart is enlarged, mitral insufficiency is present. Patient is excited and is examined with difficulty. Cervix is unusually hard and long.

A Voorhees' bag was introduced and after twelve hours was removed, having dilated the cervix only a finger's breadth. The patient seemed delirious in spite of the usual medical treatment. A vaginal

cesarean section was done and a three pound child delivered which lived three months and then died of malnutrition. The mother is as well as one would expect considering her heart and kidney conditions.

Case 4. Mrs. L. J., April 30, 1915, age twenty-four, para two. Family history negative and previous history not remarkable except two years ago, when five months pregnant, she developed albuminuria and delivered a dead fetus spontaneously. Present pregnancy: patient is now in the sixth month and has been well until yesterday. In February for a few days albumin was found in the urine but quickly disappeared upon treatment. Last night she complained of headache, dizziness, nausea and vomiting. Her physician was called and found her blood pressure to be 160 and the urine showed a large amount of albumin. At about six o'clock this morning she had a convulsion and an hour later another. She was given morphin $\frac{1}{4}$ gr., and put in a hot pack.

Physical examination shows a small amount of edema of the feet and ankles. The pulse is rapid and

the blood pressure is 165. The urine is scanty and heavily loaded with albumin. A vaginal cesarean section was performed by making the anterior incision only. There was considerable hemorrhage due to the incision extending too far to the left of the median line. The baby died on the sixth day. The mother made a stormy recovery on account of a thrombophlebitis of the left femoral vein.

In conclusion I wish to suggest that in all cases where a rapid delivery by way of the vagina is decided upon, before the cervix is effaced and dilated, that the operator have all instruments sterilized and ready to do a vaginal hysterotomy. If this precaution is taken it will be unnecessary to struggle through a very difficult or impossible manual dilatation. It is not always possible to tell, definitely, previous to a satisfactory examination under anesthesia as to the dilatability of the cervix.

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Fibroma of the Stomach

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MALIGNANT epithelial tumors are notoriously frequent in the stomach. But benign mesodermal new growths are very rare. Thus, Tigler found only fourteen benign connective tissue tumors of the stomach in 3500 autopsies, and only seven of these were fibromas. Furthermore, the majority of this type of neoplasms manifest themselves for the first time at necropsy. Yet, fibromas of the ventriculus are capable of producing serious symptoms, and may give rise to fatal complications. This happened in a case observed by us. In this communication we wish, first, to report a remarkable case of fibroma of the pylorus, second, to review the cases of such tumors found in the accessible literature, and finally, to cull from the observations recorded general facts about the etiology, morbid anatomy, symptoms and complications of fibromas of the stomach.

A woman, forty years of age, entered Mercy Hospital on Doctor McCarthy's service, April 7, 1914. She had suffered from abdominal pain and epigastric distress for over two years. These were often associated with headache and chilly sensations. She had been constipated during the last year. All of the symptoms had gradually increased in intensity, and during the last months nausea and vomiting had been prominent. The nausea was more pronounced during the menses. At times the emesis had been coffee grounds. During the last months the patient had lost some flesh. On April 5th, the pain suddenly grew worse and at that time it radiated to the back and was associated with a marked hematemesis. The next day the stools were black. Just before entering the hospital the patient again vomited a large quantity of blood.

Physical Examination.—The woman looks sick. The skin and lips are pale. The skin is wrinkled and loose. The head and chest are negative. In the median line just above the umbilicus there is a movable, oval mass about the size of a man's fist. This is firm in consistency and somewhat tender upon pressure. The stomach appears dilated. There is nothing else of especial interest.

A diagnosis of tumor of the stomach was made, and it was decided to perform an operation the next day. During the afternoon of the seventh of April, she again vomited large amounts of blood. The next morning she was brought to the operating room in very poor condition. Under ether anesthesia a median incision was made over the stomach.

Pathologic Condition.—The stomach is markedly dilated. In the pyloric region of the stomach there is an oval tumor enclosed within the stomach wall. It is firm. On opening the stomach, the

tumor is seen practically to obliterate the pyloric cavity. That part of the growth which is in the cavity is brownish-black in color.

A pylorectomy was performed. The woman rallied from the ether, but that afternoon her temperature rose to 103 degrees, she grew progressively weaker throughout the night and died the next morning. The specimen was sent to Doctor L. Hektoen for diagnosis and his report follows:

"The specimen preserved in formalin may be described as follows: It consists of a part of the stomach adjacent to the pylorus. It is irregularly oval in outline when spread out, 18 cm. in the longest diameter and 14 cm. transversely at the center. An irregularly cylindrical, fibrous tumor, 12 cm. in transverse diameter, is situated loosely in the submucosa, the long axis being parallel with the long axis of the stomach. The half of the tumor near the pylorus is covered by the mucosa and bulges towards the cavity of the stomach, its periphery being marked by a deep semicircular sulcus which is 4 cm. inside the pyloric ring at the nearest point. Approximately at the center of the bulge is a flattened, circular nodule, 6 cm. in diameter which projects through a defect in the mucosa (the buttonhole). Its surface is necrotic. The end of the tumor farthest from the pylorus projects several centimeters from the cut edges of the wall of the stomach and gives the impression, because of congestion and a line of compression, of having been constricted by a mechanism similar to that just described, but it is impossible to speak definitely on this point because the part of the stomach in question is not accessible for examination.

"On bisecting the specimen in its long diameter the appearances it has been attempted to describe become intelligible; one sees the tumor loosely situated in the submucosa, the sulcus near the pylorus, the congested button-like nodule in the grasp of the margins of the defect of the mucosa, and the congested and apparently compressed, globular, free end of the tumor. On the cut surface the tumor appears firm and fibrous, but deeply congested in certain districts. The tumor is easily shelled out of its bed, being firmly connected with the wall of the stomach at one small point only, namely, to one side of the end near the pylorus. The muscular coat of the stomach appears somewhat hypertrophied; its serous surface is rough as if from torn fibrous adhesion.

"Microscopically the structure of the tumor is that of a typical fibroma."

The accompanying table represents a resume of all the fibromas we have found reported in the literature, fourteen in all. There may be some question as to the character of two of them. In the one reported by Morgagni, the description

suits both fibroma and myoma. The other is described by Skeel as a "fibroid." Tumors of this type are, perhaps, not as rare as this small number would indicate. Doubtlessly a number of them receive only the passing attention of the prosector or, at best, find their way into some medical museum. One of us has seen several of the latter variety in the museum of Rush Medical College.

In nine of the reported cases and in ours the

in middle aged people. Thus, six occurred between the ages of forty-five and sixty-five. The myomas are seen in about the same stage of life.

In four of the cases from the literature, no symptoms are given. In the others, the most constant symptoms are nausea and vomiting. These were present in eight cases. The vomiting varied from an occasional gulping of food to continuous severe hematemesis. In several cases the nausea was more pronounced during the menses, but it

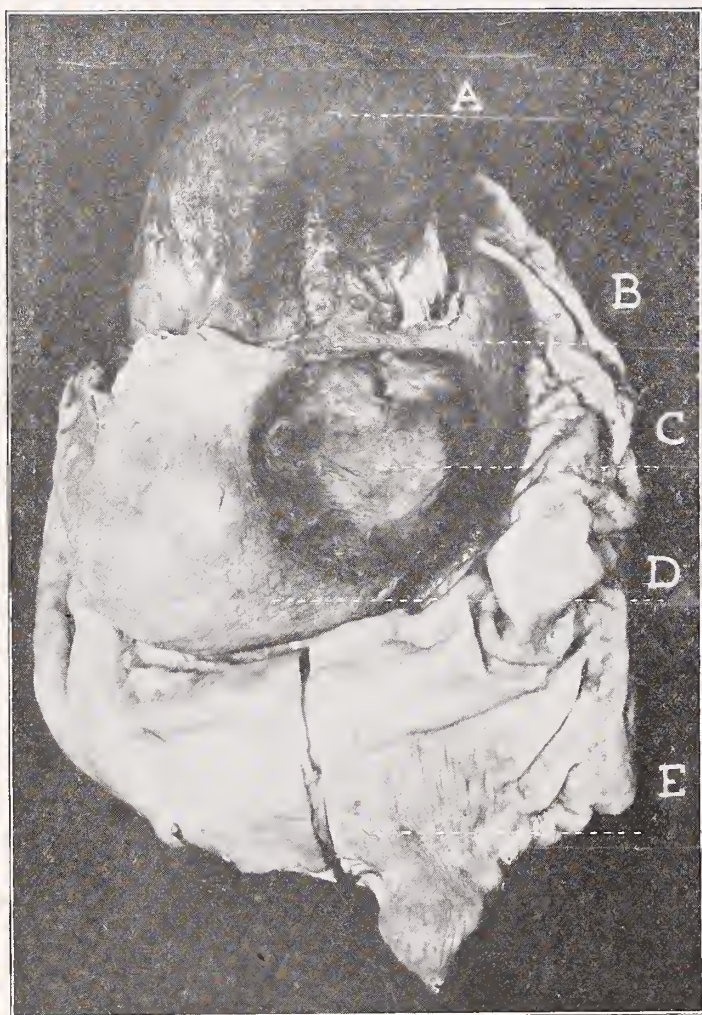


FIGURE I

A. Free end of tumor. B. Margin of mucosa. C. Buttonlike node projecting through mucosa. D. Tumor in submucosa. E. Pylorus.

new growths occurred in females. Indeed, the fibroid reported by Skeel is the only one in which the sex is reported as male. Whether this preponderance among women is actual or accidental cannot be determined with certainty from such a small number of cases. The predominance in females does not occur in myomas, for in sixteen myomas of the stomach collected by Steiner, six were found in men and seven in women. The age of the patients varies from two to seventy-eight years, but most fibromas are observed

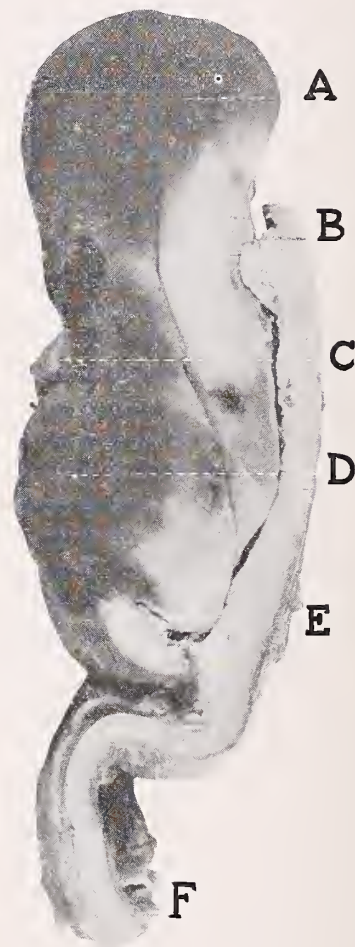


FIGURE II

A. End of tumor. B. Margin of muscular coat. C. Margin of defect in mucosa. D. Congested node engaged in hole in mucosa. E. Margin of defect in mucosa. F. Pylorus.

may be worse following them. In our case, vomiting began after meals and was worse during the menses. Erdmann's patient had vomited off and on for four years. Blood was present in the vomitus in five cases. In another patient as well as in our own several large hemorrhages occurred. Blood was found in the stools of three cases. Two of the cases of myoma of the stomach were also associated with bleeding.

The next important symptom is pain. This varies from slight epigastric tenderness to se-

TABLE GIVING CHARACTERISTICS OF FIBROMAS OF THE STOMACH

AUTHOR OF CASE	AGE—SEX	SYMPTOMS	DURATION	LOCATION	SIZE, CHARACTERISTICS	COMPLICATIONS	TREATMENT	RESULT
Morgagni (1)				Middle of posterior wall of stomach	Spherical; weight, 1 pound; diameter, 4 fingers' breadth.	Hyperemia of stomach mucosa		
Ware C. E. (2)	F.56	Nauseated at times; nodular tumor in left lower quadrant, freely movable.			Hard, irregular, nodular tumor almost cartilaginous; on anterior wall of lesser curvature, projecting into cavity of stomach			
Tigler A. (3) 3500 necropsies	1, 2 yr rest, old			Pyloric region of anterior wall in subserosa	Two papillomas; 5 fibromas pea to hazelnut size	One became sarcomatous		
Tigler A. (3) author's case	F.75			Anterior wall; middle of greater ovature	Oblong; 45 mm. long; 2 spherical nodules; the larger connected with stomach; protrudes into peritoneum; brown, hard, partly calcified, cellular in places.	Interstitial gastritis		
Stengel A. (4) necropsy		No striking clinical symptoms		Anterior wall of stomach	Spherical; size of walnut; nodular; arising from subserosa; pure fibroma			
Fischer (5)	F.37	Pain in daytime; no nausea; tenderness in left hypochondrium	1 year	Anterior wall of stomach, near lesser curvature	Walnut-sized; hard; origin from musculature; fibroma (?)	Tetany—11th day	Excision	
Spencer W. G. (6)	F.46	Vomiting; abdominal pains; freely movable tumor	For some time	Posterior wall of stomach	Size and shape of large kidney; 280 grams; firm; poor in cells; intersecting bundles of fibrous tissue; clusters of lymphocytes in plasma cells; arteries and capillaries distinguishable	Rugosity of mucosa over tumor	Removal through lumbar incision	Recovery
Bercher E. (7)	F.65	Vomiting of blood following an operation; movable tumor; no dyspepsia or vomiting; 2 years ago expelled a pea-sized tumor through fistula	Fistula 7 years	Anterior wall of greater curvature; by pedicle	Size of man's head; nodular, nodules, egg size; firm; cellular; walnut-sized cavity; weight, 380 grams; fibroma (?)	Dilated stomach and hernia	Resection by operation	Death, 5 days after
Balloch E. A. (8)	F.63	Severe vomiting spells 6-12 months apart; loss of weight during last years; freely movable tumor in upper left quadrant	13 years	Anterior wall of stomach involving muscular coat	Easily enucleated; fibroma		Excision	
F.56		Fall 20 yrs. previously; dyspepsia; nausea; pain worse after menses; freely movable tumor in lower left quadrant	1 year before operation	Greater curvature nearer cardia than pylorus	Size and shape of kidney; capsulated; large blood vessel from cardia		Excision	Recovery
Skcel R. E. (9)	M.48	Vomiting; hematemesis; melena; epigastric pains	1 year	Posterior wall between body and antrum	Spherical; movable; fibroid (?)	Perforation with hemorrhage and ulcer	Gastrostomy and enucleation	Recovery
Tyovity N (10)	F.27	Pressure over stomach; black vomitus 1-2 hrs. after eating; last ½ year tarry stools; loss of weight in last year; tumor in umbilical region; freely movable; pain toward last	5 years	Posterior wall of stomach	Pedunculated; apple-sized; in lumen; firm; (peduncle, finger size, yellow-white); pure, fibrous tissue. origin in submucosa; fibers, coarse and white; cells abundant in places	Hyperchlorhydria; dilated stomach; ulcer at base of peduncle	Resection	Recovery
Erdman J. F. (11)		Vomiting at long intervals, during menses; hematemesis; nausea; no pain except at menses	4 years	Surrounds cardia	Size of hen's egg; firm; resembles large prostate	Ulcer over tumor	Gastrostomy and enucleation	Recovery

vere colicky pains occurring with or before vomiting. Pain may be absent for long periods. It may be relieved by vomiting. Sometimes it is present only in the daytime and may occasionally radiate to the back and to the shoulder.

The striking physical sign is a freely movable, firm tumor. Twice the tumor could be moved all over the abdomen. Two times the mass was located in the lower left quadrant, twice in the left upper, and in the umbilical region four times. The stomach contents contained an excessive amount of hydrochloric acid, once. This condition was also present in two of the cases of myoma.

As a rule, tumors of this class grow slowly so that symptoms may be present for years, the longest period of illness being thirteen years. In several cases symptoms were present from four to five years.

These new growths have no special seat of predilection, differing in this respect from the carcinomas of this organ. It appears, therefore, that mechanical irritation plays no etiologic role in their formation. According to the origin in the stomach wall, the fibromas like the myomas, may be divided into two classes; viz, an internal and an external group. The internal ones arise in or near the submucosa. They are apparently more frequent than the external variety and tend to be smaller in size. One of the reasons for this may be that they produce symptoms before the external type and, hence, are removed earlier. They usually bulge into the stomach, and when situated at the pylorus lead to partial or complete stenosis. The external fibromas usually rise from the subserosa but may also come from the connective tissue of the muscularis. They may be sessile in their attachment, or be connected to the stomach by shorter or longer pedicles. The latter variety is freely movable and when at rest may lie just above the symphysis. Most fibromas do not attain a large size. About 50 per cent. of them vary in size from that of a pea to that of a hazelnut. Still, the external ones at times grow large, the largest reported being about the size of a man's head and weighing 3,800 gms. The larger tumors are nodular; the smaller ones are either spherical or oblong. In two cases the fibromas are described as being the size and shape of a kidney. The myomas, on the other hand, usually attain a larger size, the largest reported weighed 5.5 kilograms; two others were only a trifle smaller; and the smallest recorded measured 4 x 3.5 cm. In

consistency the fibromas are firm and may even have a cartilaginous feel. Microscopically, they are poor in cells at times, but may also be so cellular that they suggest a fibro-sarcoma. As a rule, the blood supply is scant. The fibers are irregular in size. In our case a careful search was made for muscle fibers but we failed to demonstrate any except in the vessel walls. In some of the myomas, again, the connective tissue is abundant so that they take on the character of a fibro-myoma. The fibroma described by Fischer contained fatty areas. And in a case reported by Mallory¹² the tumor had developed from the connective tissue sheathings of a nerve and contained nerve fibers. Hematomas were found in the substance of the tumor in two cases. Partial calcification occurred once. Ours had distinct necrotic portions and had become infected.

A frequent and serious complication is the presence of ulcers. These doubtlessly are largely produced by pressure necrosis. Ulcers were present in four cases of fibroma and also in four cases of myoma. In one case these were multiple, in another perforation had occurred. These are as liable to hemorrhage as are the peptic ulcers, and the hemorrhage may lead to death. At least some of the ulcers were associated with hyperchlorhydria.

Fibromas of the stomach are no more likely to become malignant than are fibromas of any other part of the body. Only one had undergone definite sarcomatous degeneration. In myomas, on the other hand, three of them became malignant.

The treatment in these cases consists, usually, of a simple excision of the tumor and complete recovery is the rule. However, one other case and our own terminated fatally.

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Abdominal Pregnancy

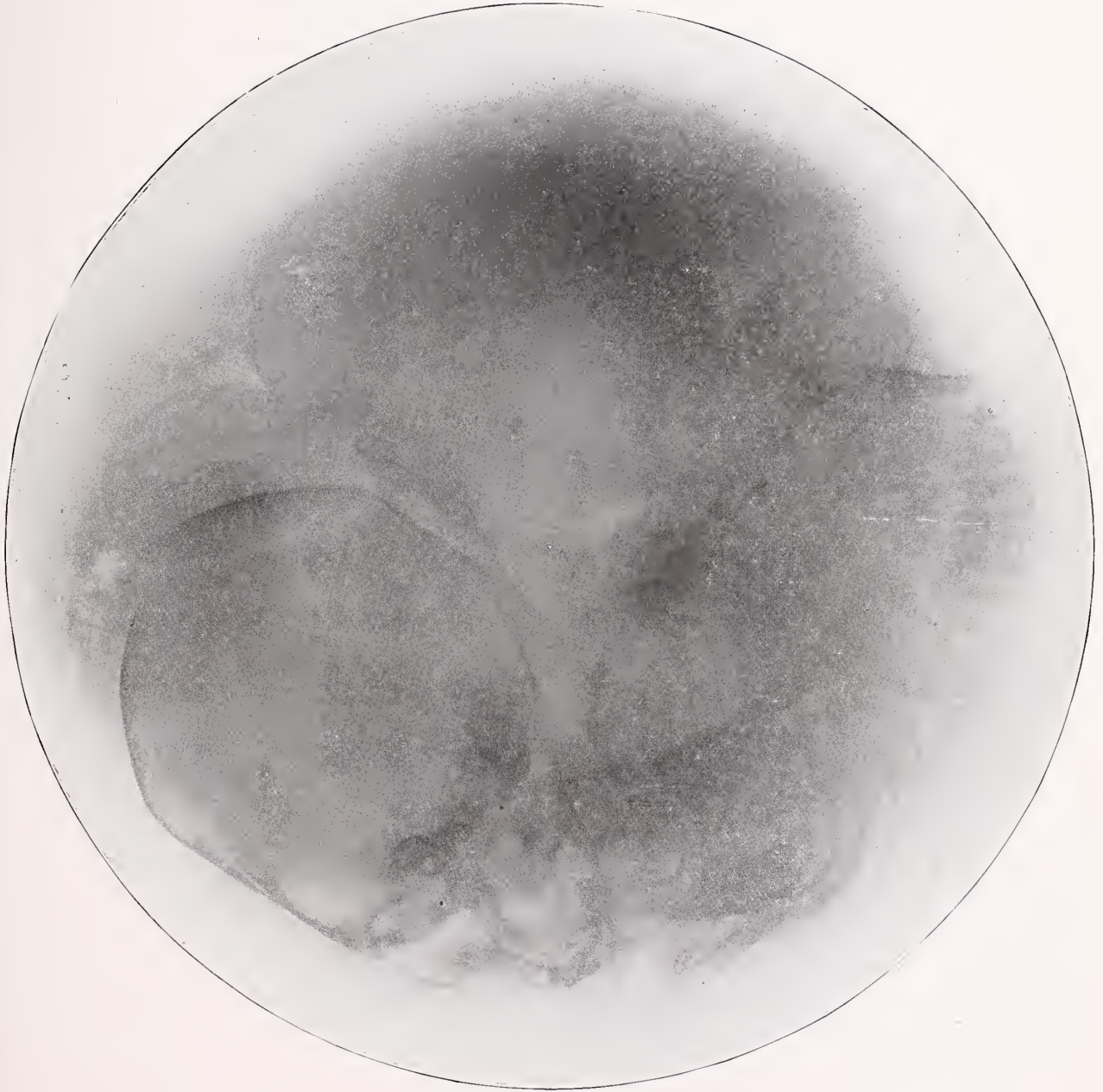
Report of a Case

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THE very largest majority of cases of pregnancy within the peritoneal cavity are tubal, or tubo-ovarian, or ovarian primarily with secondary development in the abdominal cavity. Such cases may terminate in rupture and

to follow the physiologic route into the fimbriated extremity of the Fallopian tube. An unfertilized ovum would soon perish, but the fertilized ovum has a possible period of viability of four days. Within this time, if it finds a suitable lodging



Skiograph of gestation sac

death of the fetus during any period of gestation, or may progress to viability or full term.

In true abdominal pregnancy, neither the ovaries nor the tubes are involved, the ovum being inserted primarily upon the peritoneum. The ovum having become fertilized on the ovary, fails

place within the peritoneal cavity, its future is secured. Whether its excursion in the abdomen is active or passive in character, is not important, and its localization is a mere matter of chance. Douglas' pouch seems to be a favorite spot, but bowel, bladder, omentum, etc., may be the seat of

implantation. Having become implanted upon a serous surface, it shoots out trophoblasts and develops a matrix. The formation of decidual cells, syncytium, Langhans' layer, chorion, and amnion do not essentially differ from that of a normally housed pregnancy, excepting in that the decidual reaction is notably weak, and the erosive action of the growing and multiplying villi upon the blood vessels of the abnormal host, leads to early hemorrhage and detachment of the ovum from its matrix. Hence, but few cases of true abnominal pregnancy continue beyond the early weeks, the majority being converted into hematomata and eventually absorbed.

The existence of true abdominal pregnancy has been questioned by some writers, but during the past decade, a number of such cases have been critically studied by competent authorities, thoroughly authenticated and placed upon record. Such are the cases of Linck, (1904), Seelligman (1906), Vincenzo (1906), Groene (1910) and Richter (1910).

The criteria of true abnominal pregnancy as laid down by Veitz in 1903 are—

1. There should be no connection between ovum, and uterus and adnexa.
2. There should be physiologic connection between ovum and its matrix.
3. There should be a live ovum.

Paraphrasing these, we have: a live ovum in no manner related to uterus and adnexa, and developing upon a matrix located in any portion of the peritoneal cavity, constitutes a primary abnominal pregnancy. I believe that the case below reported, conforms to these criteria and should be classified as a true abnominal pregnancy.

Mrs. B. B., age thirty-two. I-para. Married four years. A woman of exceptionally good physical development. Past and family histories of no importance. History of early period of gestation notable only for the absence of any clinical incidents, excepting only moderate degree of nausea and vomiting. **There were no uterine hemorrhage, no cramps, nor faintness, nor any other evidence of ruptured ectopic gestation or tubal abortion.** Breast development was normal. Beginning about the fourth month the patient became constipated, requiring enemata and increasing doses of cathartics, in order to secure a reasonable degree of intestinal evacuation. Fetal movements were first felt during the seventeenth week of gestation and continued until the thirty-second week, when they gradually ceased. At this time, repeated auscultations were made, but no fetal heart sounds could be detected, and therefore, the fetus was pronounced dead. Unfortunately, no vaginal examination was made at this time, and the ectopic character of the pregnancy was not suspected. A prognosis of spontaneous labor within a short time

was given. During this period, and the following weeks, the patient believed she felt slight motion at times, for which reason no interference was proposed. Finally, at full term, in the course of a complete examination, the uterus was discovered to be but slightly enlarged and empty. Diagnosis of ectopic pregnancy was made. The following day coeliotomy was done for the removal of the dead fetus. On opening the abdomen, a large mass was seen, consisting of the gestation sac with smooth surface and without adhesions to the parietal peritoneum, the upper pole of which was surmounted by the gastro-colic omentum. Afferent and efferent vessels of extraordinary size traversed from the omentum to and from the gravid sac. Both ovaries were present. Both tubes and broad ligaments were intact. The former were found to be patulous and somewhat elongated; there was no evidence of chronic salpingitis, and no constrictions in the lumen of the tubes could be detected. The uterus was slightly hypertrophied and in normal anteversion. No attachment or pedicle was found between uterus and adnexa and the gravid sac, save for a few light bands of adhesion on the posterior surface of the uterus.

It was determined to remove the gravid sac, en masse, if possible. This was accomplished with much difficulty. The omentum was ligated in sections and cut, leaving upon the sac that portion which formed the matrix. It was then found that a large portion of the transverse colon was firmly adherent to the sac wall and thoroughly incorporated into its structure. An attempt to separate it by blunt dissection failed, and some damage was done to its continuity. Intestinal clamps were then placed doubly on the gut on both sides of the sac, and the intervening adherent eight inches of bowel removed with the gravid sac. The latter was delivered entire. End to end anastomosis of the free ends of the gut completed the operation.

The patient suffered very severe post-operative shock, but made a complete recovery. Slight lochia appeared the second day after operation and continued for five days. There was no uterine hemorrhage during the period intervening between the death of the fetus and its removal by operation. Normal catamenia were established six weeks after operation. The patient has enjoyed robust health to the present time, but has not again become pregnant.

The specimen weighed six and three-quarter pounds. The surface of the free portion of the sac was smooth and glistening. The lumen of the resected gut was found much reduced and at one point sharply constricted. The sac wall was very thick and firm, fully four times the thickness of normal fetal membranes. The fetus was a female of seven months' development, perfectly formed, but markedly macerated. No measurements of the fetus were made. The accompanying skigram affords a fairly good idea of the general outline of the gravid sac, the relative position of the fetus and placenta, and the skeletal contour of the fetus.

Summary.—The features of especial interest in this case are:

- I. Perfectly normal gestation.
 - (A) Cessation of menses.
 - (B) Nausea and vomiting.
 - (C) Normal development of breasts.
 - (D) Total absence of symptoms of tubal abortion.

2. Seat of implantation high up in the abdominal cavity under the greater omentum.

3. The tremendous enlargement of the omental vessels to afford adequate blood supply to the abnormally implanted ovum.

4. Total absence of connection between gestation sac and pelvic organs.

208 Flynn Building.

Mercury in Brain Syphilis

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IN the delight of search for newer methods and new drugs, we are oftentimes blinded to the efficiency of the older tried systems. We have heard so much of salvarsan, neo-salvarsan and others of the arsenic containing drugs, that for a time mercury and its combinations as a spirillicide had for a time lost caste in the treatment of syphilis and its manifestations.

In my own work I have relied upon mercury, and I have yet to regret having placed faith in it, for no disappointment has yet come to change my belief in the efficiency of mercury, even in face of serious lesions. Salvarsan and its kind are not alone sufficient in the treatment, but must be followed and supplemented by the use of mercury. With a few exceptions this has been the general conclusion of all who have considered seriously the treatment of syphilis.

I wish to report a case of brain lues with rapid and complete recovery under the intensive use of mercury:

Geo. S. twenty-four, married, laborer, a tall and well-built American, contracted syphilis at the age of eighteen, while in the service of the U. S. Navy. He was treated by intravenous injection of salvarsan, followed by protiodid of mercury internally for, as he says, "a protracted period." I saw him first on August 5th at his home, supposedly in a dying condition. Found him comatose, breathing heavily, incontinent of urine and feces, right-sided facial paralysis and left hemiplegia, evidently a lesion in the right internal capsule. History gained from his wife was that for five weeks previously he had suffered severely from headache. In one so young a syphilitic endarteritis was the most probable cause. He was immediately sent to the hospital and vigorous mercurial treatments begun. In addition 15

grains of KJ t.i.d. were given. One-half grain doses of mercury bichlorid were injected intramuscularly daily for one week. The first twenty-four hours showed but little improvement. He uttered no word, did not open his eyes, but had spasms of left arm, hand, right side of face, and a few jerky contractions of the left leg. The next night he became noisy, delirious, thrashed about and had to be strapped in bed. The third day he answered questions but was completely disoriented. He rapidly recovered himself, although his head, as he said, felt thick. At the end of two weeks the paresis on the left side cleared, the facial paralysis disappeared and he was allowed out of bed. Before the third week had passed he was sent home. At no time did his urine contain sugar or albumin. After the first week his $\frac{1}{2}$ gr. bichlorid injections were given every other day, and he is still under treatment but feels perfectly well and strong, and is back at work.

Syphilis of the nervous system with rapid formation of syphilitic products in important viscera calls for quick and effective medication. The process must be abated in the shortest possible time so that no permanent damage may result. Such treatment requires active and efficient drugs. Mercury if energetically pushed is still the sheet anchor in syphilis, and I have had many occasions to try it. So my plea is not to disregard mercury and push it aside as of minor value, for the newer arsenic preparations. It can be rapidly given, is practically free from danger and will remain its place as the one specific in syphilis. Comparatively the period of disability is as short as under any other system of treatment, and the clinical result as good as one can ask.

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Pregnancy and Tuberculosis

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FROM one to two per cent. of all pregnancies occur in actively tuberculous women. This is shown by statistics from some of the larger clinics. Von Rosthorn¹, in 1500 births, found the mother suffering from pulmonary tuberculosis in twenty-five cases,—1.06 per cent. Pfannensteil, 1.12 per cent. in 5488 births; Heltner 1 per cent. in 5720 births, and Felner .8 of 1 per cent. in 3400 births. Bacon² has estimated that there are annually in the United States, 22,000 to 44,000 pregnant women with active tuberculosis. On this basis we might figure that there are nearly 1,000 such cases in this state each year. As medical director of an insurance company, I have been impressed with the frequency which childbirth given as cause of death in the family record, means tuberculosis.

If obstetricians perfect themselves in the art of detecting incipient phthisis, and systematically look for this complication, probably the frequency of its occurrence will be found even greater than that estimated.

The hopelessness of the outlook in pulmonary tuberculosis in former years, influenced clinicians to disregard the mothers' chances for life, and to exert all their efforts toward a favorable outcome in the child. Recent developments showing that tuberculosis properly handled, results favorably in a large proportion of cases, has changed our attitude. The mothers' life has the first consideration.

The view generally held until recent times, was that tuberculosis was benefited, and often cured by pregnancy, or that gravidity gave an immunity to an infection with tubercle bacilli.

The first to suggest the incorrectness of this view, was Mauriceaux³, who in 1645, two centuries before any other writings appeared on the subject, referred to the unfavorable effect of pregnancy on tuberculosis, basing his opinion on observations of six cases.

Grissolle⁴, in 1849, published an article of such force, attacking the commonly accepted belief, that it shook the dogma, which until then remained firm. Following him, many others have investigated the subject, and have been compelled to agree with his conclusions.

As late as 1890, Duncan⁵ presented a case to the London Obstetrical Society, where he had induced abortion because the mother was tuberculous, and advised this treatment in other similar cases. In the discussion which followed this presentation, Duncan stood alone as an advocate of this plan. Many eminent men, among whom was Playfair, took part in the discussion, none of them believing that active tuberculosis was any indication for therapeutic abortion.

In 1897, Townsend⁶, stated that tuberculosis was generally held in abeyance during pregnancy, but that during the puerperium a rapid advance occurs.

At the present time, the generally accepted view is that pregnancy in any stage, exerts an unfavorable influence on tuberculosis, but that this influence is most manifest during the puerperium. Exacerbation of tuberculosis in pregnancy, birth and child bed, was noted by Fellner in 68.3 per cent. of his cases; by Pfannensteil in 72.8 per cent.; by Kammer⁷ in 80 per cent.; by Pradella in 90 per cent.; by Pankow and Kupferle⁸ in 94.5 per cent. and by Rosthorn in 100 per cent. Trembley⁹ of Saranac Lake, found that a compilation of the histories of 240 tuberculous women who had born children, brought forth the evidence that 63 per cent. of the cases originated or first became evident during the pregnancy or puerperium. The occurrence of several pregnancies close together, have an especially bad effect in this regard. All practicing physicians have seen the effect of rapidly repeated child births in favoring the development of tuberculosis.

Efforts have been made to explain why gestation should prove so disastrous in phthisis. The subjective phenomena, such as general malaise, loss of appetite, vomiting, and reduction of free and easy movement of the body, have been cited as reasons of lowered body resistance. The change of type of respiration and alteration of blood supply, might lower the regional resistance in lungs. Hofbauer¹⁰ states that there is an increasing disposition to infection, due to a lowering of the lipolytic power of the blood serum during the progress of pregnancy.

My own idea is well expressed by DeLee, who

1. Rosthorn, Pfannensteil, Neltner & Felner, quoted by Ebeler, F. *Tuberkulose und Schwangerschaft. Prakt. Ergebnisse d. Geburtshilfe u. Gyn.* 1914, vi, 87.

2. Bacon, C. S. The essentials of sanatorium treatment of tuberculosis, gravidae and puerperae and their children. *Jour. Am. Med. Assn.*, 1913, ix, 750.

3. Mauriceaux. Cited by Pradella.

4. Grissolle. Cited by Pradella. *Zur Frage Der Kuenstlichen Unterbrechnung Der Schwangerschaft.* Zurich, 1908.

5. Duncan, W. *British Med. Jour.*, 1890.

6. Townsend. *Boston Med and Surg. Jour.*, 1897.

7. Kammer. *Berlin Klin. Wehnschr.*, 1909, No. 9.

8. Pankow & Kupferle. *Die Schwangerschaftsunterbrechung bei Lungen und Kehlkopftuberkulose.* Leipzig, 1911.

9. Trembley. *Tuberculosis and Pregnancy*, 1912.

10. Hofbauer. *Zeitschr. f. Geburtsh.* 1910, 572.

says that childbearing tests the integrity of every organ in the body. A lung already the site of disease must necessarily suffer in this test. Important factors are the social conditions surrounding the patient, and the stage and form of the disease. Initial cases, as well as torpid, fibrous, encapsulated, and other less active forms, are less affected by pregnancy, than are the open, diffuse, ulcerating, cavernous, and other advanced forms. Even the former class however, may, although the general condition remains favorable, and pulmonary findings unvaried, suffer an acute exacerbation. Of practical importance is the fact that the aggravation of existing tuberculosis may occur quite unexpectedly during the second half of the gestation period without the attendance of fever or loss of weight.

This makes it difficult to foretell the effect which pregnancy will have on any given case. Favorable experience in a previous pregnancy is no criterion. A tuberculous woman may have passed through one gestation without serious aggravation of her existing trouble, and have rapid advancement take place during the second pregnancy.

Laryngeal tuberculosis offers one of the most serious complications of pregnancy. Of 231 cases with this complication reported by one writer, 200 died during or soon after labor. Practically all of these die, although a few may be saved by early termination of pregnancy.

The effect on the product of conception of an active tuberculosis in the parent, is either a spontaneous abortion, premature birth, or full term birth of a babe showing poor resistance to infection. While, apparently, under such conditions, some children are born healthy, more frequently they are found to be poorly nourished and underdeveloped. According to Weinberg¹¹, 67 per cent. of the infants of tuberculous parents, whose mothers died in the first year after labor, died likewise in the first year of life.

This brings us to the important question of prophylaxis. The danger of marriage to women afflicted with tuberculosis cannot be urged too strongly. As family physicians, by emphasizing the perils of such union, we can do much to help in this matter. Too frequently however, will our counsels be disregarded. Then we must strongly advise against childbearing. In cases of tuberculosis in an initial stage, pregnancy should be prevented until the attack has been conquered. Not until the pulmonary manifestations have given no clinical evidence for two or three years, should the medical advisor vote in favor of child-

bearing. Where there is evidence of advanced tuberculosis, child bearing is never advisable.

Temporary sterilization is advocated by some in late years. Kronig, Gauss and others have succeeded in establishing sterilization with continued menstruation by means of X-ray application carefully measured. Future investigation will show the value of this method, and whether it is a permanent or temporary bar to conception.

If pregnancy occurs with manifest active tuberculosis, artificial therapeutic abortion is indicated. The aggravation of the disease may not be prevented in all cases, but the attempt must be made. In light initial cases, or at inactive stages, it is better to wait, keeping the case under close observation. If objective indications or general symptoms show activity, abortion should be resorted to. The fact that the induction does not always prevent the aggravation of phthisis, and that favorably situated early cases of tuberculosis with pregnancy may be passed through satisfactorily, stand out against this radical view. Weinberg, writing in 1906, and Van Tussenbroek¹² in 1914, attempt to prove that the effect of pregnancy on tuberculosis has been exaggerated.

In borderline cases, the social status of the patient and her duties to her family, might influence us in determining the proper line of treatment. One woman who is able financially, and willing to surround herself with all the facilities to favor a satisfactory outcome, might be allowed to go through; while another limited in means, and compelled to undergo hardships, should not be allowed to go on to a certainly unfavorable end. Also the mother of several children, should not be permitted to greatly impair or destroy her usefulness to those already born, in the effort to bring into the world a child who is handicapped from the beginning. Right here, I must sound a warning against tuberculosis being used as an excuse for indiscriminate abortion. A consultation must always be held before determining on this course, and the active tuberculosis demonstrated by proper examination.

Experience has shown that the greatest value is obtained when the pregnancy is terminated early, preferably before the 12th week. It is not deemed advisable to interfere after the fifth month, unless for special indications. It has been shown definitely by various observers that interference during the last half of gestation is of little value. Artificial premature birth has no advantage over normal birth.

The method of choice during the first three months, is the dilating and curetting the uterus

11. Weinberg, W. Die Beziehungen zwischen der Tuberkulose und Schwangerschaft, Geburt und Wochenbett. Beiträge z. Klin. d. Tuberk. 1906, v, 259.

12. Van Tussenbroek. Zwangerschap en Longtuberculose. Nederlandsch Tijdschrift voor Verloskunde en Gyn., 1914.

under anesthesia. In some clinics, spinal anesthesia is used for this purpose, it being especially advantageous in these cases, because inhalation of ether might aid in disseminating tuberculous foci through the lungs. After the third month, more gradual methods of dilatation and emptying the uterus are necessary. In addition to emptying the uterus, it is deemed advisable by many to carry out some plan for preventing conception in the future. Many operative procedures have been devised for this. Opening the abdomen and interrupting the continuity of the Fallopian tubes in some manner, which will either temporarily or permanently sterilize the patient, is suggested. A few have even advised supravaginal amputation of the uterus with its contents. Werner¹³ reported, in 1913, sixty cases treated in Wertheim's clinic in the two years previous to that date. In these cases the uterus was separated from the bladder through an incision in the anterior fornix. The anterior lip of the cervix was split by a longitudinal incision through the internal os. The ovum was then separated with the finger, removed with forceps, and the cervix closed with stitches. The tubes were then reached through the incision already made, and removed in part or in toto. The results reported by this treatment were excellent.

Von Bardelen¹⁴, believing that the placental site suffered frequently from tuberculosis infection advised the removal of the uterine contents and placental site through an abdominal incision. This seems an extensive operation, but the originator reports good results.

In a series of sixty cases where continued observation following the artificial abortion was possible, Pankow and Kupferle reported the following results:

Six were found steadily aggravated after the abortion for three or four years.

Eleven were stationary as before treatment.

Forty-four showed decided improvement or were even healed.

When these cases were classed according to the stages of the tuberculous process, they showed that;

Of those in the	Favorably influenced	Unfavorably influenced
1. Turban's stage	90%	10%
2. Turban's stage	60%	40%
3. Turban's stage	0%	100%

F. Ebeler reports nineteen cases of pulmonary tuberculosis where artificial abortion was done before the sixteenth week. In one case there was an aggravation of the pulmonary process, and in three cases no palpable change. In fifteen cases

improvement took place. The improvement in the cases mentioned must certainly have resulted from the proper treatment of the tuberculosis after the termination of the pregnancy, as at best the emptying of the uterus would only serve to remove an unfavorable factor. It has no remedial effect on the lung process itself.

In caring for labor at term in the tuberculous mother, our aim should be to lighten the process as much as possible. The agonized breathing during the painful expulsive efforts, may serve to scatter an infection widely; also the exhaustion following a long, severe labor, lowers the already impaired resistance. The use of opiates hypodermatically, either with or without scopolamin during the first and second stage, is of great value here. If the second stage is not passed through quickly, it should be terminated by instrumental means.

In considering the influence of nursing where the mother suffers from tuberculosis, we must take into account the welfare of both mother and child. It is generally agreed that in advanced tuberculosis the mother should, to protect herself, not be permitted to nurse her child. There is less agreement in cases of incipient phthisis where a more or less close association of the mother and child cannot be avoided. Breast nursing frequently benefits the mother by stimulating metabolism in her. It also as a rule, protects her against repeated pregnancy, but it would be a rare case indeed, where these slight advantages would warrant us in advising breast nursing for the benefit of the mother. The drain on the mother of lactation, at a time when her resistance is at a low ebb, adds materially to the elements of danger for her.

As to the effect on the child, two elements of danger must be considered. First; in breast nursing there is necessarily a close association of the child with a tuberculous mother. The danger of such close association is self evident.

Second; The possibility of direct infection through the milk must be taken into account. It has been shown that human breast milk contains the tubercle bacilli in exceptional cases. Deutsch¹⁵ believes that the milk of tuberculous mothers carries toxic products which somehow reduce the resistance of the infant. Clinical experiences shows that most of the infected children were those which had nursed their mothers. Bernstein¹⁶ observed three pairs of twins, one of which in each case was nursed by mothers, the others by wet nurses. The three nursed by the mothers died. Nursing of the infant by a tuber-

13. Werner. Interruption of pregnancy in pulmonary Tuberculosis. *Zentralblatt für Gynäkol.* No. 43, 1913.

14. Bardleben. *Deut. med. Wchnschr.*, 1911, 764.

15. Deutsch. *Munch med. Wchnschr.*, 1910, June.

16. Bernstein. *Annales of Gyn.*, 1901, June.

culous mother, then, may be considered a double menace. The interests of both mother and child are best served by beginning with wet nurse or artificial feeding immediately following birth.

In conclusion I wish to emphasize the following points:

1. Pregnancy, birth and childbed exert a distinctly deleterious effect on actively tuberculous women.

2. This bad influence is best controverted by early termination of the pregnancy and giving subsequent anti-tuberculous treatment.

3. Interference of pregnancy after the fifth month in the absence of special indication, is of little value.

4. The tuberculous mother should not nurse her child.

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Sympathetic Ophthalmia

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THE earliest reference to sympathetic ophthalmia is recorded in the oldest German text-book on ophthalmology by Bartisch in 1583, where the statement is made, "That the other good eye is, besides, also in great danger." LeDran in 1741, referred to this condition. In 1818, Demours recorded two cases. Wardrop, in 1819, reported a case and referred to the veterinary surgeons as having made observations on sympathetic ophthalmia in horses and found that it might be avoided by the destruction of the first eye with lime. Lawrence, in 1833, reported several cases. The first masterly description was recorded by Wm. McKenzie in 1835. Von Ammon, in 1838, first employed this term in German literature. Neither he nor Himly, in 1843, apparently were familiar with McKenzie's work. The next notable contribution to our knowledge of this disease was made by Augustin Prichard of Bristow, in 1851, who proved the efficacy of the removal of the exciting eye. Von Graefe distrusted this and preferred iridectomy. This he found useless and later resorted to the destruction of the exciting eye by passing a thread through the globe, which brought about panophthalmitis. At the Ophthalmological Congress in Heidelberg in 1863, Geo. Critchett contributed important additions to our knowledge of the clinical picture. And since that time history deals chiefly with the remarkable diminution of its frequency, resulting from improved methods in treating perforated wounds, depending largely upon anti—and asepsis and other procedures directed to solve the mysteries of its pathogenesis. (Pathology of the Eye, J. Herbert Parsons, IV, 1229.)

The case which prompted me to consider the present status of this subject is the following:

Mr. S. W., aged forty-three, a locomotive engineer, called at my office November 11, 1911, with a history that the lubricator glass gauge, which carried a pressure of 180 pounds, had exploded while he was on his locomotive at Mason City, Iowa. Fragments of the glass struck him in the right eye. Examination of the eye revealed a cut through the right cornea extending through the iris and into the ciliary body. The lens capsule was ruptured. There was a hernia of the iris. The eye was cleansed surgically, and the protruding portion of the iris excised. Atropin was employed and a bandage applied. The corneal wound healed rapidly showing no evidence of infection of the cornea. But severe ciliary injection developed with swelling of the lens,

and the tension increased to such an extent that on December 11th, it became necessary to open the original wound and remove a large portion of the lens material. Cyclitis developed, and the patient at times complained of ciliary pain. The irritation subsided and the eye was free from apparent congestion; light projection was good as tested with a candle. On January 1, 1912, he was dismissed with the suggestion that he return occasionally for examination. There was heavy snow on the ground and the sun was very bright. He shoveled snow for several hours, following which he went to Kansas City and, at the suggestion of the railway authorities, called on Dr. Tiffany. There was evidently a return of the congestion and Dr. Tiffany advised the removal of the injured eye. He returned to Des Moines January 7th, and called on me. A critical examination of the left eye revealed no evidence of sympathetic ophthalmia. My colleague, Dr. Amos, also examined the eye at my suggestion, and he discovered nothing indicating an involvement of the second eye. As a precautionary measure I recommended the removal of the injured eye and this I did January 14, 1912.

Pathologic Report.—The eye has been preserved in formalin. It appears normal in size, measuring 2.5 cm. antero-posteriorly and 2 cm. transversely. Tufts of fibrous tissue are attached to the sclera at various points. Going across the cornea from within the sclera there is a somewhat depressed white scar which runs past the middle of the cornea. It measures 1 cm. in length and ends in a fine point outside of the iris edge. The cornea is cloudy. The pupil is dilated and irregular. It measures 5 mm. x 4 mm. Six mm. of the optic nerve have been removed, and it appears swollen. In cross section it is oval, measuring 6 mm. x 3 mm. The organ was bisected antero-posteriorly so as just to miss the optic nerve. The remnants of the lens is markedly shrunken and is adherent to the iris around the pupil. The retina is very thin. The nerve head, as it enters the eyeball, is small, measuring 2.2 mm. in diameter. In the center is a round yellowish spot with white edges, measuring 1 mm. in diameter. The vitreous humor is fluid.

Microscopic Examination.—There is marked round cell, perivascular infiltration at the junction of the cornea and the sclera. Polymorphonuclear cells occur at the periphery of the anterior chamber. There is a marked round cell and plasma cell infiltration of the iris, especially at the attachment where nodules of various sizes occur. These are composed of epithelioid cells in the center with small round cells and plasma cells at the periphery. One giant cell is present in one of these nodules. Pigment frequently occurs scattered in the nodules. A more or less diffuse infiltration of the ciliary body is also

present. This is especially pronounced in its anterior part although patches of round cell infiltration also occur in the posterior part of the ciliary body. Edematous areas also occur in this part. The circular fibers of the ciliary nerves cannot be made out. The choroid is infiltrated with small round cells. These occur in patches showing no distinct nodules. They are more numerous in the anterior and posterior portions than in the middle. The retina is detached from the choroid except anteriorly at its edges and near the nerve head. There are rather broad bands of adhesions between the edge of the iris and the lens capsule. A few leukocytes are present in the posterior chamber. The anterior half of the retina shows marked degeneration. The posterior part appears to be unchanged. Around the retinal vessels there occur, in places, perivascular infiltrations of lymphocytes. These are more pronounced at the nerve head. The fibers of the optic nerve are degenerated and the myelin sheaths broken up. There is no evidence of round cell infiltration of the nerve sheath at any point, nor do the central vein and artery show any change. In places, there is round cell infiltration around the venae vorticosae, and the smaller scleral vessels often have groups of small round cells about them. The short ciliary vessels do not show any changes neither do the ciliary nerves nor their sheathings.

Bacteriologic Examination.—No organisms can be found in the tissue of the eye except in the anterior chamber where a few small Gram-negative fusiform bacilli occur.

Nothing unusual was observed until eleven days later when on entering the office he complained of a blurred vision. A test revealed vision of 15/50 and ability to read Jaeger No. 1 at fifteen inches; with an addition of 1.5 diopter sphere standard vision was secured. The following day a -2 diopter sphere was necessary to bring the vision up to standard. Sulphate of atropin was instilled and complete dilatation of the iris secured.

He entered Mercy Hospital where he was given pilocarpin sweats at least one hour each day and doses of twenty to thirty grains sodium salicylate internally three times a day. The atropin was continued. On February 10th, he could count fingers immediately before the eye only with great effort, and it was impossible with the ophthalmoscope to make out the details of the background of the eye. On March 16th, he was taken to his home where the atropin was continued and the sweats and sodium salicylate employed daily, the latter up to the point of tolerance. Roaring in the ears and reduction of hearing were noticed during the time that he continued the use of the salicylates. It is interesting to note that two years previous to the accident I had seen the patient in the office because of reduced hearing. On May 20, 1912, he called at the office and his vision through the correcting lens was 10/70; June 18, 1912, the vision had risen to 15/70; June 20th, 15/50; July 3rd, it dropped back to 15/39; on September 3rd, with a $+$.75 cylinder at 105° combined with a $+$.50 sphere his vision was 16/24; it

was about the same September 24th; October 10th, with a $+$.75 cylinder at 110° he read some letters in the 15/19 line. December 17, 1912, with a $+$ 1. sphere combined with a $+$.25 cylinder at 110° he read four letters in the standard type. During January and February, 1913 his vision remained about the same but it required different strengths of spheres to secure it. June 9, 1913, with a $+$ 1.5 sphere combined with a $+$.25 cylinder at 90° he missed but three letters in the standard type. June 21st, the atropin was discontinued. July 5, 1913, with a $+$.50 sphere and a $+$.50 cylinder at 105° he had standard vision and could read Jaeger No. 2 at eighteen inches. He was given this lens and dismissed. On November 23, 1914, with a $+$.50 cylinder at 90° he read most of the letters of the standard type with a $+$ 1. diopter sphere added to this he was able to read Jaeger No. 1 readily. The ophthalmoscopic examination, as made from time to time, revealed varying degrees of opacity in the vitreous chamber.

It was with difficulty that the iris was kept dilated. The care and precision with which the treatment was carried out by the patient's wife, who acted as his nurse after he was removed to his home, is evidenced by the fact that he took about sixty grains of the sodium salicylate daily, and 552 sweats during the time of treatment. Notwithstanding the persistent use of the atropin, a slight synechia developed. At the last examination of the eye, made August 4, 1915, the external appearance of the organ was normal. With a $+$.50 cylinder at 90° , vision was a little better than 15/20 and ability to read Jaeger No. 4; with the addition of a $+$ 1 sphere Jaeger No. 1 was easily read. The tension as taken by the tonometer, was 13.5. The iris contracted normally to light. Upon instilling homatropin the iris retracted well in the semi-circle down and in. In the upper outer and lower outer segment the iris now was adherent to the capsule of the lens and a straight line is formed by the iris in these segments. These adhesions were not apparent before the iris was retracted. Ophthalmoscopic examination revealed a slight opacity in the posterior pole of the lens; this was not present at any previous examination. A few floaters remained in the vitreous chamber but the vitreous en masse was perfectly clear. The retinal vessels appeared normal and the head of the nerve showed no change. In reply to the question as to whether there was any peculiarity noted in his vision as he went about the streets, he said, that at times in a bright light, when looking at a distance, he noticed something suggestive of heat waves. At present he is employed in a responsible position as stationary engineer.

Whatever may in the future prove to be the direct cause of sympathetic ophthalmia, this is certain: that nearly all cases of this disease follow perforating wounds, especially at the sclero-corneal margin of the exciting eye. Fortunately, however, only a very small percentage of such wounds lead to this grave disease; thus Ohle-

mann¹ found but two instances of sympathetic ophthalmia in 245 cases of perforating wounds of the eye, and Bernheimer², but three in 300, though this observation covered a period of over 20 years.

Evidently the exciting agent is not necessarily brought into the eye from without the body, because sympathetic ophthalmitis may develop after operations on the eye, which have been conducted under the most approved surgical methods. M'Reynolds³ states that one case of sympathetic ophthalmia develops in about 750 intra-ocular operations. Lister⁴ reports four cases following cataract operation, and the London Royal Hospital records indicate that one-half of all cases of sympathetic ophthalmia follow cataract oper-

these cases, Parsons concludes by agreeing with Leber and Krahnstoever that there is not sufficient evidence to show that sympathetic ophthalmia is ever set up by sarcoma of the choroid, but that it may follow perforation of the globe through operative interference. Nevertheless, the evidence on the other side is very strong, and there is no biologic reason why sympathetic ophthalmia should not, in rare instances, follow other conditions than perforation of the globe.

There has been a great deal of speculation and much work done in order to establish the definite cause of sympathetic ophthalmia, but so far the results have yielded only a number of theories, the most important of which are the following:

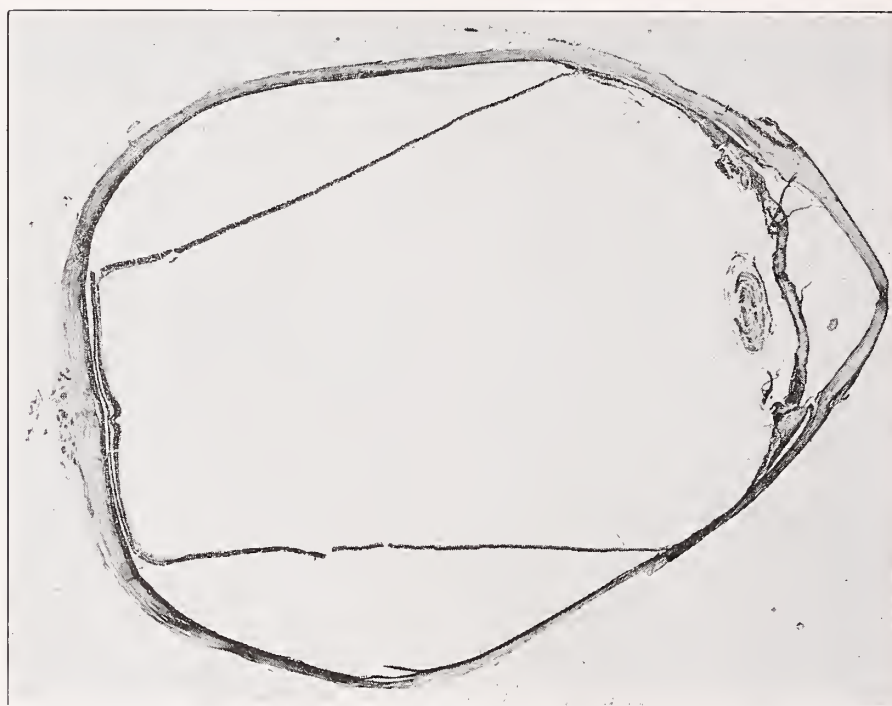


FIGURE I

Horizontal section of the eye, x 4, showing occluded pupil, shriveled lens and the partially detached retina.

ations. Twenty-seven cases of sympathetic ophthalmia have been reported following subconjunctival rupture of the globe. Gifford⁵ remarks that if these prove to be genuine instances of this disease, they create a hesitancy about performing Elliot's trephine operation. Nevertheless he holds the operation should be done when needed. Again, intra-ocular tumors appear to have brought about this condition, for over thirty cases of sarcoma of the choroid and two cases of neuro-glioma followed by sympathetic ophthalmia are on record. After a critical examination of

- I. Pure Nerve Theory
 - A. Through Optic Nerve
 - B. Through Ciliary Nerve
- II. Pure Bacterial Theory
 - A. Transmission by Metastasis
 - B. Transmission by Reversed Venous Flow
 - C. Transmission by Lymphatic Channels
- III. Combination of I and II
 - A. Meyer's Theory
 - B. Schmidt-Rimpler's Theory
- IV. Toxic Theory
 - A. Endogenous and Exogenous Toxins
 - B. Elschnig's Theory of Anaphylaxis

According to the pure nerve theory advanced by Le Dran, Himly and Mackenzie, sympathetic ophthalmia was simply due to a reflex irritation

1. Ohlemann. Zur Pathogenese der sympathischen Ophthalmie. Arch. f. Augenh., Wiesb., 1912, lxxi, 64.
 2. Bernheimer. Cited by Ohlemann.
 3. M'Reynolds, J. O. Sympathetic Ophthalmia. Railway Surg. J., Chicago, 1913-14, xx, 311.
 4. Lister. Cited by M'Reynolds.
 5. Gifford. Theoretical consideration of some phases of sympathetic ophthalmia. Oph. Rec., 1914, xxiii, 64.

of the optic nerve. This theory is now obsolete. Similarly, the idea that this reflex irritation passed through the ciliary nerves has been given up. The combined theories assumed that the reflex irritation lowered the resistance of the sympathizing eye sufficiently to give the bacteria a foothold. On account of the paucity of evidence in favor of this view, the combined theories are also practically abandoned today. The toxic theory assumes that poisonous substances, circulating in the blood, set up the inflammation in the second eye. It is difficult to believe that the poison or poisons come from the body cells because the disease occurs in persons whose metabolism is apparently perfect. On the other hand, it is well known today that bacteria act only by means of the poisons they liberate; hence, when

can produce inflammation of the eye. This, of course, is a well known, indisputable fact.

Elschnig's⁷ conception of sympathetic ophthalmia is that it is due to an allergic state. This, he holds, is produced by substances from the injured uveal tissue, especially the pigment, giving rise to the formation of autogenous antibodies, specific for uveal tissue. He has made a great many observations and conducted many experiments to prove his theory. In support of his ideas he offers the work of Kuemmel⁸, who was able to demonstrate the presence of antibodies by a complement fixation reaction, however, this observer admits that the technic of the reaction is exceedingly difficult and that he was able to obtain a positive reaction in only a small percentage of genuine cases of sympathetic ophthalmia, but, on the other hand,

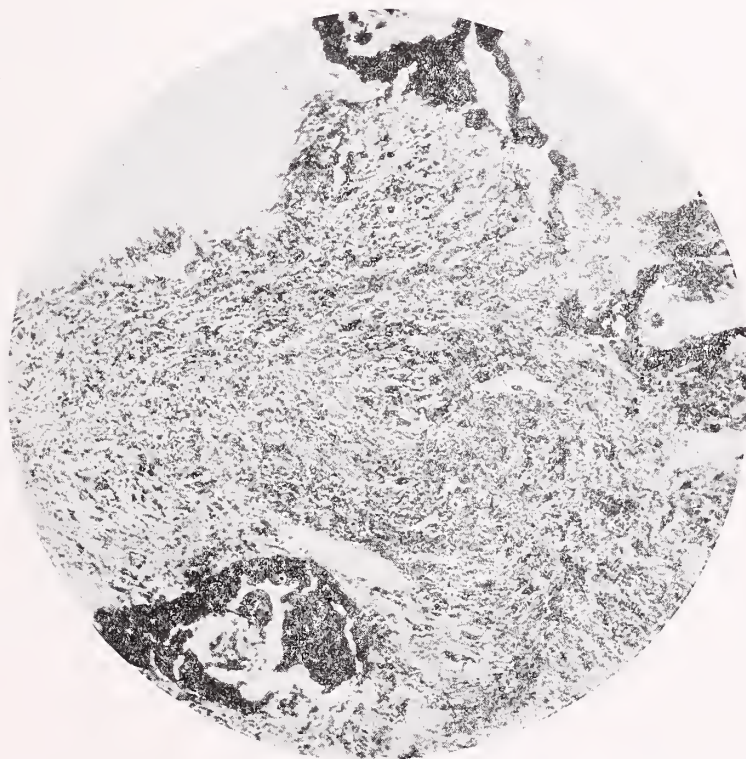


FIGURE II

Photomicrograph of characteristic nodule in choroid, x 62, showing the arrangement of epithelioid cells with pigment granules scattered throughout the nodule.

taken in this sense the toxic theory is identical with the bacterial.

In this connection it is interesting to note Guillery's⁶ work. This observer was able to produce uveitis very similar to sympathetic ophthalmia in the eyes of experimental animals (rabbits), first by the injection into the eye, of various bacterial ferments (from *B. subtilis*, *B. prodigiosus* and *B. proteus*), and later by introducing these substances into the blood stream. His results merely prove that bacterial poisons

his reaction was positive in a large percentage of normal individuals, so that his conclusions carry little weight. In order to explain the small percentage of perforated wounds with injury to the uveal tissue, which develop sympathetic ophthalmia, Elschnig contends that these antibodies do not develop unless some anomaly of the body is present in the form either of a disease such as diabetes or nephritis, or, when this is absent, of

6. Guillery, H. Ueber Fermentwirkungen am Auge and ihre Zeeiehungen zur symphathischen Ophthalmie. III. Arch. f. Augenh., Wiesb., 1913, lxxiv, 132.

7. Elschnig, A. Studien zur sympathischen Ophthalmie. Arch. f. Ophthal., 1912, lxxxi, 71.

8. Kuemmel, R. Nachtag zu meiner Arbeit; Versuche einer Serumreaktion der sympathischen Ophthalmie. Arch. f. Ophth., Leipz., 1913, lxxxiv, 440.

an auto-intoxication manifesting itself by the presence of indican in the urine.

It is perfectly true that in rare instances auto-antibodies have been produced, yet it is difficult to explain this disease by the term anaphylaxis in the sense that Elschning wants us to understand it. But if we accept the condition of allergy as but one phase of immunity and a stage that is present in any bacterial disease as it is now held, then, of course, there is an anaphylactic stage also in sympathetic ophthalmia. This brings us to a consideration of the bacterial theory.

Early in the '80's D. Deutschmann reported the finding of a staphylococcus in sympathetic ophthalmia, and a series of experiments in which he sought to prove that the organism he found was the cause of sympathetic ophthalmia, and that it extended through the lymphatics of the optic nerves across to the other eye. His results were not corroborated by others. In 1911, F. Deutschmann found a Gram-positive diplococcus in the involved tissues in typical cases of sympathetic ophthalmia, and also in the lymphatics of the optic nerve, in the chiasma and in the second bulb. He was able to grow these organisms, which he thought to be modified sarcinae, and was able to change them to the *Staphylococcus albus*. And he claims to have produced, both by injection of pieces of choroid tissue and by his cultured organisms, sympathetic ophthalmia in apes. Unfortunately, his results so far have not been obtained by others. In my case the only bacteria found were a few fusiform, Gram-negative bacilli in the anterior chamber. These were, in all probability, saprophytes.

The majority of workers today consider the germ theory the most probable one, but there is a difference of opinion as to the way the germs reach the second eye. The Deutschmanns hold that they extend through the lymphatics of the optic nerve and advance as proof for this view, their histologic finding, viz., perineuritis and circumscribed meningitis. No perineuritis could be demonstrated in the case observed by me. Goldzieher⁹ claims that the germs travel by the ciliary nerves as evidenced by a perineuritis of these. A careful search failed to reveal any perineuritis of the ciliary nerves in the eye examined by me. Others have held that the germs travel by a retrograde venous flow into the other eye; and still others believe that the second eye is infected by metastasis through the blood stream. It is possible that when the true cause is found it will be shown that they reach the second eye by various channels.

In the meantime it seems to me that the bulk of the evidence at hand suggests that this disease is

of microbic origin. Rosenow's work may throw some light on the specific pathogenicity for the sympathizing eye, which is so striking in this disease, for this observer has shown that through influences unknown, one strain of streptococci may develop specific pathogenicity for various organs, such as the heart, the stomach, the gall-bladder, and the appendix. And it may be that in the near future when the newer bacteriologic methods of Noguchi and Rosenow are employed the true causative germ of sympathetic ophthalmia will be found, and the facts disputed today, then easily explained.

The interval which elapses between the injury to the exciting eye and the onset of the inflammation in the other, usually varies from fourteen days to several months. Although Calhoun¹⁰ has reported a case where the other eye became affected as early as seven days after the injury.

The histologic change found in the injured eye is essentially that of a chronic inflammation, with a tendency to formation of nodules and perivascular infiltrations. Fuchs¹¹ described in a masterly fashion the histologic changes found in the exciting eye. These consist of nodules in the uveal tract. The nodules are composed of a center of epithelioid cells. Among them giant cells are found. The periphery of the nodules is made up of small round cell. These nodules may occur in the ciliary body, sometimes in the iris and sometimes in the choroid. They have also been found in the sclera. With these is a round cell infiltration of the outer part of the choroid coat. Fuchs considered these changes characteristic for sympathetic ophthalmia. Numerous other observers have verified his findings, but they have also amplified them, and have shown that the nodules are not always present. Recent observers have found numerous plasma cells in the affected parts. In my case only one giant cell was found and this was located in the iris near the point of the penetrating wound. Nodules in the case here reported occurred in the iris. The perivascular infiltration found at the periphery of the cornea appears to be a constant feature. Bach¹² states that in early cases of sympathetic ophthalmia polymorphonuclear leukocytes also are found. Only a few sympathizing eyes have been examined histologically. In these the most marked changes have been a round cell infiltration of the choroid. Thus it comes about that the only constant cell found in this disease, is, as Gilbert¹³ states, the small round cell. The retina usually shows few changes but in my case round

10. Calhoun, E. P. The report of a case of sympathetic ophthalmia, developing seven days after operation; treated by neosalvarsan; recovery. *Am. J. Ophthal.*, St. Louis, 1913, xxx 107.

11. Fuchs. Cited by Guillery.

12. Bach, L. Der derzeitige Stand Lehre von der sympathischen Ophthalmie. *Jahresk. f. aertzl. Fortbild.*, Munchen, 1911, ii, Heft 3-8.

9. Goldzieher, W. Beitrag zur Pathologie der sympathischen Augenenzundung. *Virchow's Arch. f. Path. Anat.*, Berl., 1913, ccxiii, 335.

cell infiltration occurred around some retinal vessels especially those near the nerve head. From the histologic pictures given by the various authors, it is evident that the morbid changes found in the eyes are the result of a chronic inflammation, and that, dependent upon the infectivity of the virus and the resistance of the tissue, the histologic appearances vary. As in all chronic infections, leukocytes are likely to occur in early stages. These are associated with and followed by the appearance of round cells. Epithelioid cells and giant cells are later products and are numerous when the progress of the condition is slow. These changes are apt to terminate in the formation of scar tissue. There is nothing unusual in the appearance of plasma cells, for we now know definitely that these are simply degenerated forms of lymphocytes and are found in all chronic inflammations.

Sympathetic ophthalmia seems to be associated with a definite blood picture, for Browning¹⁴ and Ormonde¹⁵ found a relative increase in large mononuclear cells varying in Brownings' cases from 35 to 40 per cent.; and Wolfrum¹⁶ reported two recent cases of this disease with a relative increase of lymphocytes, whereas two older cases gave a normal blood picture. Purtscher and Koeller found both a relative and an absolute lymphocytosis in nine cases of genuine sympathetic ophthalmia. In most instances this persisted for months, and in two cases, for several years. Gradle¹⁷ studied the blood of thirty cases of iridocyclitis, including cases due to perforating injury of the eye and also those of non-traumatic origin. He found an increase in lymphocytes in all six cases of sympathetic ophthalmia but no particular change in any other. It is quite possible that all these observers have reference to the same type of white cell, since cells classed by some as large mononuclears may by others be grouped with lymphocytes.

The diagnosis of this disease is often difficult. It is at times confused with tuberculosis or syphilis. The histologic picture often bears a striking resemblance to the former.

An interesting complication sometimes appears in the course of sympathetic ophthalmia, in the form of central deafness which may be bilateral. In the majority of instances this condition comes on suddenly without warning. Those who believe that sympathetic ophthalmia is caused by a germ, hold that the infectious process extends from the infected eye along the pial sheaths to the auditory nerve, or as a meningitis; and still others

believe that the condition is due to metastasis through the blood stream, similar to that seen at times in syphilis, mumps and other infections. While the adherents to Elschnig's theory explain this complication by saying that an anaphylactic condition also exists in the ear because of the presence in the labyrinth of a pigment similar to that in the choroid. Peters¹⁸ has collected five cases in which disturbances of hearing were associated with sympathetic ophthalmia. In one of his cases the ear trouble set in with headache five days following the enucleation of the eye. In another the condition set in two months after the beginning of the ophthalmia. Komoto¹⁹ found ten asylum patients, blind from sympathetic ophthalmia, in whom the hearing was defective but, in these, histories are incomplete. The loss of hearing is in some instances preceded by aural hypersensitiveness. Fever, dizziness, and delirium are also, at times, associated with impairment of the hearing. The prognosis is bad as far as the hearing is concerned, although the case reported by Komoto, and that, by Sachs²⁰ recovered. Enucleation of the eye seems to exert a beneficial influence.

The prognosis in sympathetic ophthalmia is bad, but a small percentage of cases recover, apparently regardless of the form of treatment. Stoewer²¹ reports two cases treated with tuberculin in which great improvement occurred, but in one of these he was not certain whether he was dealing with true sympathetic ophthalmia or tuberculosis, and in the other, a subsequent anatomical diagnosis was tuberculous iridocyclitis. Browning treated seventeen cases with neosalvarsan obtaining good results. In the case here recorded the patient took between 25,000 and 30,000 grs. of sodium salicylate (Squibb). It was my purpose to push the sodium salicylate to the point of tolerance as recommended by Gifford. A few weeks of experience showed me that the patient could, at times, stand 75 grs. a day. When the head symptoms became intolerable the dosage was dropped to 60 grs. With the latter amount, while the hearing was somewhat reduced during the time of its administration, he was able to continue it.

Few patients would carry out such a long course of treatment as consistently as did this one. As the result of my experience with this and other similar cases, I feel that atropin, locally, with the sodium salicylate internally, as recommended by Gifford, combined with the daily sweats, offers the greatest hope in the treatment of this disease.

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13. Gilbert. Cited by Guillery.

14. Browning, S. H. On salvarsan in diseases of the eye, with particular reference to its use in sympathetic ophthalmitis. *Ophthalmoscope*, Lond., 1912, x, 629.

15. Ormonde. Cited by Purtscher and Koeller. *Ueber Lymphocytose der sympathischer Ophthalmie*. Arch. f. Ophthal., Leipz., 1912, lxxxiii, 381.

16. Wolfrum. *Ibid.*

17. Gradle. *Ibid.*

18. Peters, A. *Sympathische Ophthalmie und Gehörstörungen*. Klin. Monatsbl. f. Augenh., 1912, II, 433.

19. Komoto. Cited by Peters.

20. Sachs. Cited by Peters.

21. Stoewer. *Sympathische Ophthalmie und Tuberkulose*. Arch. f. Augenh., Wiesb., 1913, lxxxiii, 155.

Childhood Susceptibility to Tuberculous Infection

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THE problem of tuberculous infection in childhood is fast assuming an importance little considered a few years ago. Since 1903, when Behring¹ expressed the opinion that tuberculosis, like syphilis, was characterized by three stages and that the primary infection usually occurred in infancy, numerous observers, notably Von Pirquet², Romer³, Weleminsky⁴, Mills⁵ and others, have attested accuracy of his observation. Behring's conception of phthisis as a late sequel of a process begun in childhood, at first doubted, now receives the strongest support.

The German saying that "am Ende hat jeder Mensch ein bisschen Tuberculose," has been proved by autopsy records and the result of tuberculin tests to be literally true. However, it is very questionable whether the general teaching of this doctrine, without qualification, has been advisable. An increasing number of physicians quote this statement to patients in an effort to minimize phthisophobia, thus their fears have been assuaged, often to their physical detriment in early pulmonary cases.

The use of tuberculin as a means of diagnosing tuberculous infection in children has now come into general use, and has proved to be of inestimable value when properly used and correctly interpreted. Wolff-Eisner⁶ in 1907 described a method of using tuberculin instilled into the conjunctival sac as a test for tuberculosis and this test modified by Calmette⁷ was until recently largely used. However, Von Pirquet's cutaneous test and Moro's inunction test are considered to have the advantage of greater safety, avoiding inflammation of such a delicate structure as the eye. The subcutaneous injection is less applicable for diagnosis in children, but occasionally renders valuable aid when, for various reasons, the other tests have given negative reactions.

The result of the application of these tests to large groups of children was to show that a very much larger number are infected with *B. tuberculosis* than had been previously suspected. Furthermore, careful examination by the pathologist

post-mortem has practically corroborated the evidence given by the tuberculin tests.

Hamberger and Monti⁸ by the means of the tuberculin test applied to the school children of Vienna, found a tuberculosis incidence of over 90 per cent. at the age of fourteen years. McNeil⁹ confirmed these findings in a series of tests on children presenting themselves at the clinics in Edinburgh, and concludes that the Von Pirquet test furnishes valuable evidence of latent as well as clinical tuberculosis.

From these and other observations Pritchard¹⁰ arrived at the following conclusions which may be taken as the English view of the frequency of tuberculous infection:

"Tuberculosis is the most common of all diseases to which childhood is liable. The congenital form of the disease is practically unknown. The incidence rate rises from zero at birth to 90 per cent. at the age of fourteen. On the other hand, although tuberculosis is a terribly fatal disease during the first few months of life, the mortality rate among those affected falls to about 2 per cent. at the end of the fourth year. Thus, as far as tuberculosis is concerned, children may be said to be highly susceptible, but, with the exception of the first two years of life, little liable to fatal results."

In an effort to substantiate the figures of European observers and to discover whether such conditions prevailed in the cities of this country, Veeder and Johnston¹¹ undertook an investigation of patients admitted to the St. Louis Children's Hospital, most of them from the poorest districts of the city. They summarize their results as follows: "A study of tuberculin tests in 1,321 hospital children in St. Louis shows that the percentage of positive reactions reaches a maximum of 44 per cent. at the age periods of ten to fourteen years; including cases with clinical tuberculosis: excluding children with clinical tuberculosis the percentage giving positive reactions at this age period is only thirty-six." They conclude that "the statement that 90 per cent. or more of individuals are infected by puberty is an extreme exaggeration of the actual conditions which exist."

The beliefs regarding the proportion of infec-

1. Behring. Deutsch. med. Wchnschr., 1903, 689.
2. Von Pirquet. Verhandl. d. Gesselsch. f. Kinderheilk., 1907, 32.
3. Romer. Beit. zur Klin. f. Tuberculose, 1912, xxii, 3.
4. Weleminsky. Trans. Internat. Cong. on Tuberculosis, 1912.
5. Mills. Brit. Med. Jour., 1910, i, 1159.
6. Wolff-Eisner. Berl. klin. Wchnschr., 1907, xlv, 700.
7. Calmette. Compt. Rend. de l'Acad. des Sciences, 1907, cxliv, 1324.

8. Hamberger and Monti. Muench. med. Wchnschr., 1909, lvi, 449.
9. McNeil. Brit. Med. Jour., 1912, ii, 676.
10. Pritchard, E. The Practitioner, 1913, 280.
11. Veeder and Johnston. Am. Jour. Dis. Child., 1915, ix, 478.

tion caused by the bovine type of the bacillus vary even more strikingly, from an almost negligible 1.32 per cent. reported from Gaffky's clinic¹² to the statement by Mitchell¹³ that cow's milk containing bovine tubercle bacilli is clearly the cause of 90 per cent. of the cases of tuberculous cervical lymph nodes in infants and children. No doubt the incidence of tuberculosis of bovine origin depends very largely upon the prevalence of tuberculosis in cows, which is known to be much greater in certain districts than in others. The wide divergence of opinion as to the importance of this etiologic factor should in no wise obstruct our campaign for clean milk and for pasteurization.

In a discussion of the subject of allergy and reinfection in tuberculosis Baldwin¹⁴ evidences a clear conception of our present day belief in the frequency of tuberculosis by concluding: (a) that most adults have some tuberculous infection; (b) that a variable degree of specific allergy is thus acquired; (c) that during ordinary health the tissues repel tubercle bacilli, partly with the aid of specific allergy; (d) reinfection is mostly autogenous superinfection and is due to disease, overstrain, trauma, or any cause of lowered vitality, whatever that may mean; finally, (e) as a corollary, adults are very little endangered by close contact with open tuberculosis, and, and not at all in ordinary association. Childhood in the time of infection, youth the time of super-

infection, and that from extension of primary disease.

Mary E. Lapham¹⁵ strongly discredits our efforts to prevent infection, stating that "In the present state of our knowledge it is useless to attempt to protect our children against this wholesale infection, because we do not know when, nor how, nor why it is acquired. All that we do know is that tubercle bacilli are universally present within the bodies of our children, and that any day, at any time, from the cradle to the grave, these bacilli may assume pathogenic properties."

The evidence from all sources clearly proves that the child is peculiarly susceptible to tuberculous infection and that tuberculosis of the adult is simply a later stage of the tuberculosis of the child. Our problem, therefore, is to prevent the lymphatic tuberculosis of the child from becoming the consumption of the adult. This cannot be done by institutional treatment on account of our inability to maintain a sufficient number of sanatoria. We do not seem able to prevent childhood infection and the futility of prevention becomes more obvious the more we study the prophylaxis of the disease.

We must discover the existence of the tuberculosis disease at an early stage and this can best be accomplished by routine examination of school children for evidence of early signs and symptoms. In this way only can the child be protected from the consequences of his infection.

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12. Rothe. Deutsch. Med. Wochenschr., 1911, 343.

13. Mitchell, P. Brit. Med. Jour., 1914, i, 125.

14. Baldwin, E. R. Johns Hopkins Hosp. Bull., 1913, 220

15. Lapham. N. Y. Med. Jour., 1915, c, 108.

Chorioepithelioma

With Report of an Unusual Case

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IN reviewing the history of chorioepithelioma and other pathologic conditions intimately associated with it, one finds that the subject is far from new. Knowledge of hydatiform mole, the predisposing factor in a large percentage of cases of chorioepithelioma, was had by Hippocrates. Atcius Von Ameda presented his original manuscript describing it under its present name in the early part of the sixteenth century and Virchow advanced the modern theory as to its pathologic nature.

While to Saenger¹ has been given the credit of our first knowledge of chorioepithelioma, who described such a case before the obstetrical society of Leipzig in 1888, his work was antedated two years by Klotz² who reported a case and reviewed the literature which consisted of one case reported by R. Maier³.

Though these were the first cases reported under modern names it is evident that the neoplasm has occurred for centuries. As early as 1795 de Gregorini described in a thesis a malignant tumor of the uterus following hydatiform mole, the clinical description of which is sufficiently exact to identify it as chorioepithelioma and he believed it to be of fetal origin. Before this date Meckel had recorded a case of vesicular mole which had been followed by malignancy.

The most important work on chorioepithelioma has been done by Marchand⁴ who collected twenty-eight cases to 1895, twenty-four of which had died of sepsis, peritonitis, hemorrhage or metastases. Ladinski⁵ in 1902 was able to gather from the literature 132 authentic cases, while ten years later Kepler⁶ collected a total of 631 cases.

During the past two years about forty cases have been added. These 631 cases by no means indicate the prevalence of the tumor, nor can one accurately determine the mortality of the condition from the cases reported. Because the tendency of the profession is toward reporting cases which have made a recovery while many cases afflicted with this disease die without being reported and without being correctly diagnosed.

To understand the origin of chorioepithelioma

one must revert to his knowledge of embryology, and it will not be inopportune to recall in a general way some of the facts which have a bearing on this subject.

With the discharge of the ovum, whether impregnated or not, the mucous membrane of the uterus becomes hypertrophied, the vessels engorged and their lumina enlarged. Should the ovum escape impregnation, the hypertrophied mucous membrane disintegrates and menstruation ensues. Should on the other hand the ovum become impregnated, whether in the outer third of the fallopian tube as is customary, or any place along the upper genital tract, it finds lodgment at some point of solution of continuity in the mucous membrane and, instead of menstruation occurring, the hypertrophied mucous membrane quickly surrounds the ovum with what becomes the decidua reflexa. During the first few days of development, the ovum secretes a ferment which liquifies the surrounding cells, creating embryotrophe or pabulum which furnishes it nutrition until the development of the chorion.

The chorion, the outermost of the embryonic membranes, and the one directly in contact with the maternal tissues, is arranged in numerous villi which fit into corresponding depressions in the reflected decidua. This is at first general throughout the uterine cavity, but at the end of the fourth month both the decidua reflexa and the chorionic villi have disappeared except at what then becomes the placental site. Each chorionic villus is composed of a delicate reticulum containing capillary vessels, and over the surface of this lie epithelial cells which have their origin in the ectoderm. The epithelial element of the chorion, which is known as the trophoblast, is composed of two layers of cells. The inner is a layer of low polyhedral cells having a limiting membrane and containing a solitary nucleus. These are known as Langhans' cells, and while well defined during the early weeks of pregnancy they disappear about the sixth month. The outer layer of cells is composed of darkly staining multinuclear protoplasmic masses which show few cell boundaries and vary greatly in size, shape and staining properties. These are the syncytial cells. They persist throughout pregnancy, though without definite arrangement near its termination.

1. Saenger. *Centrabl. f. Gynaek.* 1889.

2. Klotz, Zur. *Frage der Deciduom.* *Arch. f. Gynaek.*, 1886, xxix, 78.

3. Maier, R. *Vir. Archiv.* 1876, lxxvii, 55.

4. Marchand. *Archiv. f. Gynaek.* 1895.

5. Ladinski. *Am. Jour. Obst.*, 1902.

6. Kepler, C. Some aspects of chorioepithelioma malignum with report of cases. *Albany Med Jour.* 1911, xxxii, 708.

Several theories have been advanced as to the function of the syncytial cells, some considering them protectors to Langhans' layer from the maternal blood. But the generally accepted theory at present is that they are cells endowed with a selective power and operate in the capacity of selecting certain nutritive substances from the maternal blood. It must be borne in mind that the maternal blood, as such, does not pass through the placenta and enter the umbilical vessels, but only such substances as are abstracted from the blood by the selective cells. To facilitate this process the cells of the trophoblast are covered by an albumose which prevents coagulation. These cells not only come in contact with the endothelium lining the maternal sinuses but protrude into them and enter the maternal circulation as well. They may be found in the maternal circulation during all periods of pregnancy, and have been demonstrated sometime after pregnancy was terminated. This must be understood to be purely a physiologic process. It may, however, become pathologic and the dividing line between the two conditions is not always well defined. The cause of this physiologic process becoming a pathologic one has not been definitely determined, but it is probably a matter of maternal resistance, either a lowered resistance to a normal amount of trophoblastic cells or a preponderance of the cells where resistance might be normal. Trophoblastic cells may remain in the wall of the uterus for months or years without showing signs of malignancy, as has been cited by Ries⁷, who reports a case where chorionic villi were found in the wall of the uterus eighteen years after the last pregnancy. Cells thus remaining in the uterine wall may take on a sudden rapid growth and become malignant.

This tumor has borne as many as eleven different names, principally because its histogenesis was not understood. Its three most common names have been deciduoma malignum, syncytioma and chorioepithelioma. Deciduoma malignum, because it was believed to be a malignant proliferation of the decidua, and syncytioma, because only syncytial cells were supposed to enter into the formation of the tumor. The name chorioepithelioma is the most appropriate one and is used today practically to the exclusion of all others. As the name implies, the growth has its origin in the chorion and is epithelial in nature. These tumors have much the same appearance regardless of the tissue in which they are found. Their customary location in the uterus is at the placental site, consequently near the fundus on the anterior or posterior wall. The neoplasm

may appear as a fungous mass protruding into the uterine cavity, ranging in size from that of a marble to that of a fetal head. This is implanted into the uterine wall by numerous prolongations which run between the bundles of muscle fibers. The tumor is color and consistency bears a striking resemblance to placental tissue. On account of the tendency of the tumor to break down, the inner surface of the uterus is more frequently rough, ulcerated and the uterine wall almost or entirely perforated. The necrotic area is grayish white in color, and the uterine cavity is filled with a dark, bloody, fetid fluid not unlike the discharge from uterine carcinoma. Where penetration of the uterine wall has been complete, its peritoneal surface is grayish white and the peritoneal cavity contains the same bloody fluid described above.

Metastases occur early and the metastatic growths correspond in every particular to the primary tumor. The relative frequency of organs involved is lungs, vagina, liver, spleen, kidneys, intestines, brain, broad ligament, pleurae, lymphatic nodes, pancreas, heart and stomach. Metastasis is always through the blood stream and never through the lymphatics. When the lymphatics are involved the cells have been carried there by the blood stream. Metastasis occurring along the vagina or in the labia, second only in frequency to that in the lungs, is described as a retrograde metastasis and is due to emboli containing trophoblastic cells breaking down and entering the veins, which in this region form a network with free anastomoses.

The microscope is indispensable in determining the true character of chorioepithelioma. Under the microscope may be recognized a rapidly proliferating structure, composed of large multinuclear protoplasmic masses without definite outlines, that is, having no limiting membrane, and clear mononuclear polyhedral cells (Langhans' cells). These are arranged in groups or nests apparently without connective tissue to hold them together. Where connective tissue is present, as it may occasionally be, it is the frailest of structures and corresponds to the delicate reticulum seen in the chorionic villi. The cells may arrange themselves around this network in such a manner as to resemble a villus in its entirety. The numerical relation of syncytial and Langhans' cells is not constant, and it may be said is not the same in any two cases. However, syncytial cells usually predominate. This is particularly true in cases following hydatiform mole, and the relation seems to have a direct bearing on the degree of malignancy and consequently upon the prognosis. Cases in which only syncytial cells are found are

7. Ries, E. *Am. Jour. Obst.* 1913, lxvii, 433.

the least malignant and malignancy increases with the relative prevalence of Langhans' cells.

From the foregoing statements it will be seen that this tumor is difficult to classify. Here we have a physiologic process becoming a pathologic one; the first evidence of malignancy being a penetration of the connective tissue of the chorionic villi by the trophoblastic cells. While the tumor is extremely malignant it is neither carcinoma nor sarcoma, though it has characteristics of each. It resembles carcinoma in that it is an epithelial tumor, but unlike carcinoma metastases apparently do not occur through the lymphatics. It resembles sarcoma in appearance and in the fact that metastases occur through the blood stream, but unlike sarcoma, it is an epithelial tumor and not a connective tissue one.

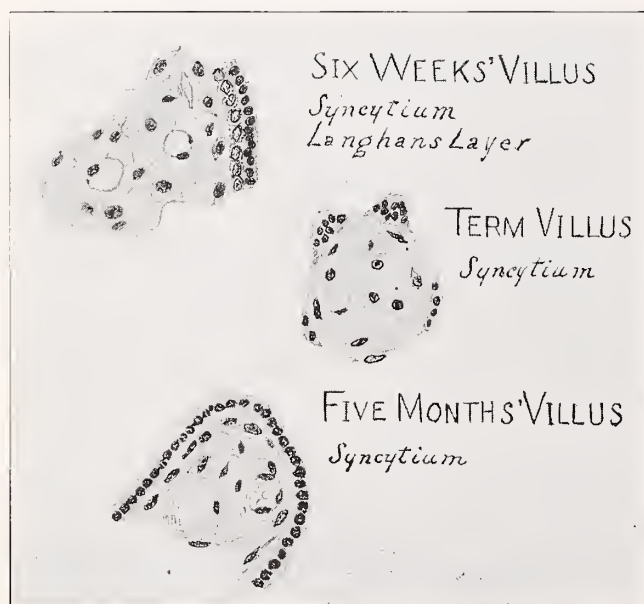


FIGURE I

Drawing by Prof. H. J. Prentiss, illustrating the relations between the syncytium and the Langhans' cells, at various periods of gestation.

These facts have led some pathologists to consider this a neoplasm "sui generis."

It was but a few years ago that pregnancy was supposed to be the only predisposing factor in the development of chorioepithelioma, and that consequently the tumor could only arise in a female who had given birth to a child, had had an abortion, an extrauterine pregnancy, or had, in utero or had passed a hydatiform mole. While this is the common history of cases of chorioepithelioma, the tumor has been demonstrated in the testicle, in the mediastinum, in the brain and in the virgin uterus. One occurred in a child of eight and one-half years who had never menstruated, and one in a maiden lady of seventy-five who had passed the menopause over twenty years, had never been pregnant.

The question naturally arises as to how a neoplasm of trophoblastic origin may arise under these circumstances, and this can be answered in the following way: These tumors developing in the genital organs are probably due to chorioepithelial rests which have been carried from the chorion to the genital tract by the allantois which is the original structure forming the belly stalk, the anlage, of the bladder and urachus. It is a direct communication between the chorion and the embryonal structures entering into the formation of the genitals.

Tumors developing in parts distant from the genitals, as in the mediastinum, brain, etc., have their origin in teratomata which may contain all the cellular elements of the embryo.

Hydatiform mole has a marked predisposing influence on the development of chorioepithelioma. Even with the rarity of vesicular mole, 16 per cent. of all cases of chorioepithelioma follow that condition and about 40 per cent. of the cases of molar pregnancy are followed by chorioepithelioma. Labor, at term, is least likely to be followed by this tumor, only .05 per cent., or one in 2000 cases, develop the growth. Abortion occupies a position of frequency between that of hydatiform mole and labor at term.

The degree of malignancy is influenced by the different terminations of pregnancy. The cases having the highest mortality are those following abortion. Next in fatality are those developing after labor at term, while in cases following hydatiform mole the mortality is least.

As stated in a previous paragraph, the degree of malignancy depends upon the relative number of Langhans' cells present. In the early period of pregnancy these cells are numerous and show many mitotic figures. They constitute the principal cellular element in cases following abortion. As pregnancy progresses these cells gradually disappear and cases following labor at term possess fewer of the Langhans' cells. In the degeneration of the chorion which characterizes hydatiform mole, the Langhans' cells appear to suffer most, since these cases are followed by tumors made up almost entirely of syncytial cells.

The mortality after hysterectomy corresponds to the above classification in malignancy, but taking all operative cases into consideration the mortality is about 63.6 per cent.

The most common and reliable symptom of chorioepithelioma is hemorrhage. Given a case where there is a history of recent delivery, abortion or hydatiform mole followed in a short time by hemorrhage, one should always suspect chorioepithelioma. This is particularly true where the uterus has been cleaned out, where hemorrhage

stops and in the course of a couple of weeks begins again. Hemorrhage is usually profuse in the cases following hydatiform mole, but in those following delivery at term and abortion the hemorrhage is not so pronounced. Between the periods of hemorrhage the patient has a bloody ill-smelling discharge from the uterus and vagina. The patient does not complain of pain but general weakness and anemia are marked from the onset. The pulse is weak and the rapidity out of proportion to the temperature. The elevation of temperature is usually slight but may rise as high as 102 F. There is no characteristic blood picture aside from that of a marked anemia. The

the uterus is found to be somewhat enlarged, the cervix dilated, and the entire organ feels boggy. On account of the fetid discharge, elevation in temperature, rapid pulse and marked anemia, the case is generally considered one of sepsis, and the true diagnosis is not made until metastasis occurs. During the past few years a small number of these cases has been diagnosed by an exploratory hysterotomy, an operation which should be urged where grave intra-uterine disease is suspected.

Little of importance has been added to the subject of treatment of chorioepithelioma. During the past year Schauta⁸ described his technic and

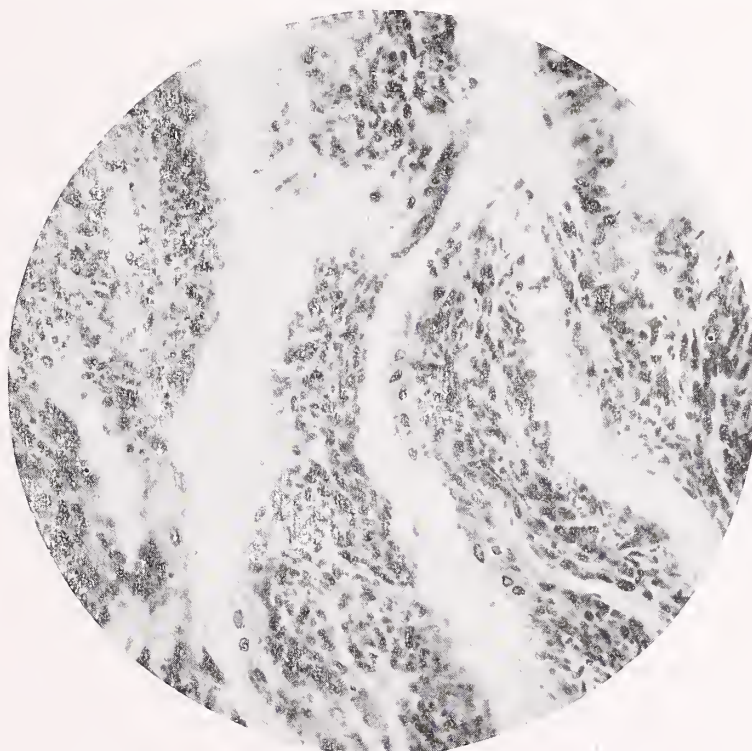


FIGURE II

Photomicrograph x 125, showing syncytial cells growing in blood sinuses. These are supported by elongated epithelial cells, thus giving the tumor somewhat of a sarcomatous appearance. At the removal of the nodules from the vagina and the clitoris, the specimens were sent to Dr. D. J. Glomset for microscopic examination, and the following extract is made from the report: The bulk of the nodules consist of clotted blood. At the periphery, however, occur villi-like structures which often project into wide blood sinusoids. The cellular element is composed about half and half of large multinucleated masses of protoplasm and smaller cells having densely staining nuclei. The smaller cells show mitotic figures. No connective tissue framework can be made out. Diagnosis: Chorioepithelioma

red blood cells and hemoglobin are materially reduced. There is no increase in the leukocytes as is often found in cases associated with hemorrhage or an elevation of temperature. Microscopic examination of the discharge or scrapings from the uterus furnish no positive information as to the nature of the trouble, for the reason that syncytial cells or even chorionic villi may be found in the uterus years after pregnancy without having produced malignancy.

Metastasis occurs early and usually constitutes a prominent symptom, particularly that occurring in the vagina or labia which should make diagnosis conclusive. On vaginal examination

reported a case treated by radium with local recovery but death occurred from pulmonary metastases. Hormann⁹ a little later reported a case treated by mesothorium with a fatal termination. Operative measures appear to be the only logical treatment at present and afford the greatest hope for recovery. This treatment should be prompt and radical. Complete hysterectomy in the event of an early diagnosis is the operation of choice. Even when metastasis is present this operation should be performed. Removal of

8. Schauta, F. Ueber Radiumbehandlung bei Gebärmutterskrebs. *Zentralb. f. Gynaek.*, 1914, xxxviii, 961.

9. Hormann, A. Chorionepitheliom und Strahlen therap. *Zentralb. f. Gynaek.*, 1914, xxxviii, 1128.

metastatic growths, when possible, increases the chance of recovery. This is one neoplasm where partial extirpation is better than nothing. Nature seems to be able to overcome the action of a number of the tumor cells after the primary growth has been removed, a fact not difficult to understand when we consider the primary process as physiologic rather than pathologic.

Report of Case.—Mrs. C., age eighteen, married. Has always enjoyed good health. July 27, 1910, had miscarriage; no bad after effects. December 27, 1910, passed hydatiform mole. Remained well until June 1, 1911, when she had a hemorrhage from the uterus. The uterus was curetted at that time. Hemorrhage recurred in a few days and continued until August 12th, when she was brought to the hospital with the above history. She showed a pronounced anemia and was emaciated. On examination the uterus was found to be slightly enlarged, not tender, and a dark bloody discharge was present. Temperature, 100 F. A curettement was decided upon with the idea that some deciduous membranes might have remained in the uterus. On passing the curette no resistance was encountered and the instrument passed as far as the handle. Laparotomy was immediately performed. Bloody purulent fluid was found in the pelvis. The fundus of the uterus showed a grayish ulceration with complete perforation of the organ, the discolored area resembling gangrene. Not recognizing the nature of the disease a hysterectomy was performed leaving the cervix in situ. Recovery was uninterrupted and the patient left the hospital September 12, 1911, one month after operation. The patient continued to improve after reaching home until October 7th, when her physician lanced what he supposed to be an abscess of the labium which had developed without pain and was freely movable under the skin. Hemorrhage was profuse and required deep sutures to control it.

On October 14th, a mass of degenerated tissue was removed from the site of the previous operation on the labium. Hemorrhage was profuse and again deep sutures were applied. October 20th, the sutures were removed. Occasional bleeding occurred the next few days and it was noticed that the growth was returning. On October 24th, the patient had a

severe hemorrhage and a rapidly growing mass in the opposite labium could be detected.

October 28th, the patient was removed to Mercy Hospital. Each labium contained a tumor about the size and shape of a normal kidney resembling in appearance placental tissue. Another growth about the size of an English walnut and showing the same general characteristics grew from the clitoris. No mass could be detected in the vagina or pelvis. The tumors of the labia and clitoris were removed. The patient improved rapidly and left the hospital November 6, 1911.

On November 19th, a recurrence was noticeable in each side of the vulva. The tumors soon reached the size of the previous metastatic growths in that locality. Since the patient's physical condition was very poor it was thought to be impossible for her to withstand further operative measures. The size of the growths remained stationary for about a week, then sloughed off leaving a clean granulating surface which healed rapidly.

Recurrence in each side of the vulva appeared again on December 21, 1911. In addition there was a ridge extending the entire length of the vagina on the right side. The tumors in this instance did not break down. After reaching the size of former growths a gradual reduction took place and on January 6, 1912, only a slightly movable nodule could be felt on both sides of the vulva. On January 20, 1912, the patient passed per vaginam a piece of tissue the size of an almond which resembled deciduous tissue.

From this date recovery has been rapid. The patient's weight increased from 85 to 109 pounds. Anemia has disappeared and she has gained in strength and vitality.

Over three and one-half years have elapsed since the patient had her last symptom of chorioepithelioma. While it is true chorioepithelioma has been known to recur after three years, the recurrences, as a rule, is a matter of weeks rather than months or years.

Summary of Case Report.—The interesting features of the above case are: first, the early age at which the disease developed; second, spontaneous cure after recurrence; and third, that at present, four years after operation, the patient is in perfect health.

1205 Equitable Building.

Mesenteric Cysts

F. ROSENBLADT, M. D.

Des Moines

MESENTERIC cysts are surgical rarities. Their diagnosis is seldom if ever made prior to operation¹. Their genesis excepting hydatids and malignant cysts is not clear. There is still some disagreement about their classification and their place in pathologic anatomy is by no means established.

There is record in surgical literature of isolated cases numbering about 200. This excludes omental cysts which are usually classed under mesenteric cysts and are no doubt similar in both structure and origin. The number however includes cysts of the mesentery of the ileum, of the mesocolon, the mesosigmoid and the mesorectum.

Mesenteric cysts are most common in the mesentery of the ileum². Sometimes they are located near the root and sometimes near the bowel and may vary in size from that of a walnut to that of an adult head. The larger number of primary tumors of the mesentery are cysts³. Benedict⁴ finds no sex predilection for chylous cysts and he does not think that any age is especially predisposed.

The following case of cyst of the ascending mesocolon is reported from Dr. Fay's clinic and was operated on at the Iowa Lutheran Hospital July 19, 1915. This case is reported partly for its rarity and partly because of the symptoms and physical findings which differ somewhat from those usually given for mesenteric cysts.

Mrs. M. B. of Lacona, Iowa, referred by Dr. Noble of Dallas, Iowa; age, thirty-six; German-American, married thirteen years but never pregnant. Mother died of cancer. Usual diseases of childhood. Menstruation normal but painful. Has had asthma ten years or more. Past five years has felt bad. There has been loss of strength and some loss of weight. One year ago discovered mass in abdomen just below liver. It increased slowly in size and the past few weeks it has been very painful.

Physical Examination.—The patient is thin and weak. In the abdomen there is a mass the size of a double fist. It is round, smooth, but slightly movable, and situated in about the position a large cystic gall-bladder would be. The mass is not very tender. Temperature normal. Pulse, 110.

The mass was first regarded as a kidney but ureteral catheterization was negative. The X-ray examination was also negative. It was next con-

sidered a gall-bladder but doubt was thrown on that diagnosis because of the absence of definite symptoms of cholecystitis. And barring those few cases in which the X-ray shows the stones or those rare cases in which the gall-bladder is definitely palpable, the gall-bladder is operated on from symptoms only. So no positive diagnosis was arrived at and exploration was done.

Operation.—Section was made directly over the tumor. A mass the size of a double fist was found lying posterior to the peritoneum. The pancreas, gall-bladder, duodenum, stomach, colon, kidney and suprarenal were normal. The peritoneum overlying the tumor was opened and the mass shelled out with difficulty. Several layers were peeled off like the layers of an onion. The layers were left behind and were adherent to the adjoining tissue. It was somewhat difficult to fix the exact location of origin, but as nearly as it was possible to tell it was the ascending mesocolon, the colon being displaced mesially. One of the layers of the mesocolon formed the posterior peritoneum which was incised to reach the tumor. The peritoneal edges were united and the abdominal wound closed in the usual manner.

Pathologic Report.—(Dr. Daniel J. Glomset). The specimen consists of an oval, cystic tumor about the size and shape of a cocoanut. The wall is thin and smooth. The tumor contains about 500 c.c. of yellowish, serous fluid in which occur numerous flakes of fibrin and small globules of fat. The cyst wall measures from 2 to 4 mm. in thickness. It is firm and made up entirely of adult connective tissue. The lining of the cavity is smooth and appears stretched, excepting in three eroded, rather rough areas near one of the poles of the cyst. The largest of these is about the width of a fifty cent piece, the smallest slightly larger than that of a dime.

Diagnosis: Cystoma containing flakes of fibrin.

I regret to be compelled to state that no microscopic sections were made, owing to the fact that we failed to indicate the unusual location from which the cyst was removed. Consequently, in the laboratory it was thought to be a simple ovarian cyst. Hence, this is an effort to establish the place of the cyst in surgical pathology from certain well known historical, anatomical, and embryologic facts and the gross appearance of the specimen.

History.—The first case of mesenteric cyst was reported by Benevieni⁵ in 1507. The first formal description of such a cyst was made by Rokitansky in 1842. Subsequently Brucy⁶ and Rokitansky⁷ each described a number of such

1. Keen's Surgery, iv, 638.

2. Friend E. Mesenteric Chyle Cysts. Surg., Gynec. and Obst., xv, 1.

3. Mikulicz and Kaush. Von Bergmann's System of Surgery, iii, 472.

4. Benedict, A. L. Bibliography of Chylous Cysts of the Mesentery. Surg., Gynec. and Obst., xvi, 606.

5. Moynihan. Mesenteric Cysts. Ann. of Surg., xxiv, 1.

6. Brucy. Etudes sur les Kystes Sereux des Ganglion lymphatique. These de Paris, 1876.

7. Rokitansky. Lehrbuch der Path. Anatomie. 1861. Bd. iii.

cysts and each endeavored to prove their origin from degenerated lymph nodes. To this singularly enough Virchow⁸ agreed. In 1892 Braquehay⁹ classified mesenteric cysts as (1). Sanguineous cysts. (2). Lymphatic cysts, including chylous cysts. (3). Hydatid cysts. (4). Congenital cysts and dermoids. (5). Cysts of adjoining organs (ovaries, pancreas, etc.)

In 1897, Moynihan (loc. cit.) classified them as: (1). Serous cysts. (2). Chyle cysts. (3). Hydatids. (4). Blood cysts. (5). Dermoids. (6). Cystic malignant disease.

In 1900 appeared Dowd's¹⁰ widely quoted paper in which he divides mesenteric cysts according to what he believes to be their origin into (1). Embryonic cysts. (2). Hydatids. (3). Cystic malignant disease. Dowd believes that chylous, serous and blood cysts are all of embryonic origin. The contents of such cysts differ, he says, according to whether blood serum or lymph has effused into it. Deaver¹¹ believes, with Dowd, that all mesenteric cysts, with the exception of parasitic and malignant cysts, are of embryonic origin. Jones¹² likewise thinks that there is a growing tendency to regard most mesenteric cysts as having their genesis in embryonic "rests." Moynihan also, in 1902, expressed the opinion that most of such cysts originate from embryonic remnants. Ayers¹³ is of the same opinion.

In 1907 Niosi¹⁴ divided embryonic mesenteric cysts as follows:

- (1). Cysts of intestinal origin.
 - A. Sequestration from bowel during development.
 - B. From Meckel's diverticulum.
- (2). Dermoids.
- (3). Cyst from retroperitoneal organs (germinal epithelium, ovary, Wolffian body, muellerian duct).

It is plain that more and more are coming to regard all mesenteric cysts, not parasitic or malignant, as of embryonic origin. I doubt if the term, "cystic malignant disease," which has been given as a class of mesenteric cysts, is any longer tenable. Malignant cysts are probably for the most part originally simple cysts which subsequently have become malignant. Moreover, a metastatic malignant tumor of the mesentery or, for that matter, a primary one which undergoes cystic degeneration, is not morphologically a cyst.

Recalling a few facts of the anatomy: It will be remembered that the mesentery is made up of two layers of peritoneum which connect the convolutions of the jejunum and ileum with the posterior abdominal wall. Its root, the part connected with the vertebral column, measures about 6 in. in length and extends from the left side of the second lumbar vertebrae to the right sacroiliac symphysis. The intestinal border measures about 20 ft. The transverse mesocolon is a continuation of its upper border and the ascending mesocolon, if it exists, is a continuation of its lower margin. Between the layers of the mesentery is connective tissue supporting quite an amount of fat, lymph vessels often called lacteals, and lymphatic glands. The lymph vessels arise from the intestines and ramify between the mesenteric layers and finally empty into or form receptaculum chyli of Pequet.

Between the layers of the mesentery, in the connective tissue and fat, are certain congenital remnants of the Muellerian and Wolffian ducts and bodies, and usually in the neighborhood of Meckel's diverticulum are remnants of the omphalo-mesenteric or vitelline duct. The former two are forerunners of the epididymis in the male and of the epi and parovarian in the female. The ovaries in the female and testicle in the male in foetal life are retroperitoneal organs. It is no great stretch of imagination to see how remnants or embryological rests may be left between the layers of the mesentery or retroperitoneally.

Von Bergmann¹⁵, Bland Sutton¹⁶ and others even attribute congenital cystic kidney to inclusions of portions of Mueller's duct and the Wolffian body within the kidney itself.

Quoting Dowd: "It is altogether within the bounds of probability that such a separation should from time to time take place from the wolffian body or the germinal epithelium at an early time in embryonic life: and if such portions are separated it is not strange that they should be carried into the mesentery mesocolon or mesorectum and there form cysts such as have been described."

Assuming Dowd's classification to be best I think it safe to say that this cystoma is of embryonic origin. A hydatid may be excluded in the absence of daughter cysts, scolices and hooklets. Cystic malignant disease may be excluded because if malignant cells were present they had nothing to do with the origin of the cyst.

Taking the classification given by Niosi for embryonic cysts it is quite evident that a dermoid

8. Virchow. Berl. klin. Wchnschr., 1887.

9. Braquehay. Kystes des Mesentere. Arch. gen. de med. Paris, 1892.

10. Dowd. Mesenteric Cysts. Ann. of Surg., xxxii, 515.

11. Deaver, H. C. Congenital Mesenteric Cysts. Ann. Surg., ii, 618.

12. Jones, E. C. Cysts of the Mesentery. Surg. Gynec. and Obst., xxi, 56.

13. Ayers, J. C. Am. Jour. of Med. Science cxxxi, 92.

14. Niosi, Vir. Arch., 1907 ii, 217.

15. Von Bergmann. System of Surgery.

16. Bland Sutton, Tumors Innocent and Malignant, 1903. 255.

may be excluded by the gross examination of the contents of the cystoma.

This brings us by the process of elimination down to a mesenteric cyst of embryonic origin, either having its genesis in a snared off portion of intestine or arising from embryonic "rests" of fetal organs. Of these two I think the first can be excluded because the walls had nothing suggestive of this condition in the way of epithelial lining or muscular layers. Also, it was attached near the root of the mesocolon a distance too great for a piece of snared off intestine to be transplanted.

Moynihan points out that there is with a mesenteric cyst a rapid body wasting, that the cyst fluctuates and is most prominent toward the navel; that it is very mobile, and that it is surrounded by a resonant zone and crossed by a resonant band.

In this case the cyst did not fluctuate because the multiple layers made the wall too thick to detect it. It was not mobile because it was bound down by adhesions. It was not surrounded by a resonant zone nor crossed by a resonant band because the colon was displaced mesially. There was, however, an unaccountable body wasting which according to some is the only characteristic symptom of the disease.

I am indebted to Dr. Fay for permission to assist on the case.

In discussing the above case at one of our meetings, Doctor Priestley, from the wealth of

his experience, singled out the following case observed by him, thereby driving home the point that these mesenteric cysts are accompanied by a loss of weight and strength, the reason for which is still unknown.

John A., age sixteen, school boy, tall and much under weight, was brought in by his parents, on account of loss of flesh and general run down condition. Physical examination failed to reveal any objective symptoms other than a small movable tumor in the lower left quadrant of the abdomen which was thought to be an enlarged mesenteric gland or a tuberculous mass. Operation was done and a small cystic tumor, about the size of a large English walnut was found in the meso-appendix. The appendix was normal, as was also the peritoneum, and no enlarged glands were found. The cyst was dissected out. The appendix was not removed as it seemed to be quite healthy. The cyst contained turbid serum in which were a few flakes.

The boy made a good recovery and in a short time regained his strength, as well as his flesh, and after a period of five years he was still in very excellent condition, a well developed young man. I have not heard from him for sometime, and do not know if he is living at the present time or not.

No microscopical examination was made of the cyst nor any serological examination of its contents.

1217 Equitable Building

The Direct Implantation of Motor Nerve Upon Muscle Tissue (Neurotization)

An Experimental and Clinical Study

ARTHUR STEINDLER, M. D.

Des Moines

ALL hopes of constructive surgery are built upon regeneration.

The physiologic latitude of the power of regeneration determines the applicability of many, if not of most, of our modern operative methods. An increasing mastery of technic has achieved for constructive surgery a vastly wider field of application, as well as a much higher degree of exactness in execution and of surety in results; but whenever an original move is made we find that the most crying need of the hour is not the technical problem, but the experimental indorsement and corroboration. It is especially in regard to the biologic and physiologic facts involved in the new problem, that the laboratory worker is called in first to pass judgment upon the viability of the new idea.

Within the scope of orthopedic subjects the problem of bone plasty is a good example, for no sooner were the curative possibilities of the method grasped in regard to treatment of fractures and pseudo-arthritis, than a feverish activity began to center around the questions of bone growth and bone reproduction. From the investigations of MacEwen and Axhausen to the present day the experimental work has been paving the way for the clinician.

Experimental work proved to be of equal importance in the development of arthroplasty. Here a new impetus was given to the work by the studies on regeneration and transformation in connection with interposition methods; they are fundamental for the operative procedures of the day, the disparity of opinion among the investigators notwithstanding. The same is true of the methods of tendon transference and other modern operative procedures in orthopedic surgery. In the past, experimental work did not always take the initiative; but many disappointments have proved that it is wrong to practice the clinical side first and to appeal afterwards to the experiment for proof and evidence.

The chief object of the work submitted here has been that of gaining knowledge of the laws governing the regeneration of peripheral motor nerves; and subsequently, that of utilizing them for reconstructive surgical methods in infantile and other forms of paralysis.

In as much as the physiologic latitude of regeneration is but incompletely established, it is

reasonable to assume, a priori, that there be yet a considerable margin of regenerative possibilities of the peripheral nerves, which may be utilized for new operative methods.

Up to the investigations of most recent date only very few facts concerning nerve regeneration were well established. We know that regeneration of the divided peripheral nerve takes place only from the central stump; that the peripheral end acts as a neuro-conductive scaffold into which the new axons grow from the central stump; that the gap at the place of severance may be bridged only if comparatively short, because otherwise the sprouting axons fail to connect with the peripheral stump, and that interposed connective or other tissue is an obstacle hard to overcome for the growing nerve. Our clinical observations also show that the new formed nerve elements finally reach the individual muscle cell, and form end organs. Thus the normal neuro-motor contact is re-established and function re-assumed, the time elapsing to accomplish this being proportionate to the distance to be covered from the place of severance to the terminal ramifications. Dense scar tissue is most difficult, though not absolutely impossible for the regenerating fibers, to penetrate. Free regeneration outside the nerve sheaths has been observed for some distance in loose connective tissue. But the progress of growth is by far the most rapid within the structure of the severed peripheral nerve, which acts as a scaffold.

A notable step forward has been made in the last two years, since it has been demonstrated by Heineke¹, Erlacher² and others that our present conception is too narrow, as regards the regenerative facilities of the peripheral motor nerve, especially of the terminal endings of the nerve. Heineke has pointed out the possibility of implanting the peripheral nerve directly into paralyzed muscle tissue; he was able to show in his experiments that motor impulses could in this way be directly transmitted to the muscle. This is possible only if the nerve fiber upon reaching the sarcolemma of the muscle cell produces the

1. Heineke, H. Die direkte Einpflanzung des Nerven in den Muskel. *Centralbl. f. Chir.*, 1914, No. 11.

2. Erlacher, P. Hyperneurotization, Muskuläre Neurotization; Freie Muskel-transplantation. *Centralbl. f. Chir.*, 1914, No. 15. Ueber die motorischen Nervenendigungen. *Zeitschr. f. orthop. Chir.*, 1914, xxxiv, 314. Experimentelle Untersuchungen ueber Plastik und Transplantation von Nerve und Muskel. *Arch. f. klin. Chir.*, 1915, cvi, 387.



FIGURE I
Normal human muscle



FIGURE III
Three weeks after neurectomy

terminal ramifications of the axis cylinder down to the delicate end plates and end bulbs. It means, in short, that the normal contact between nerve and muscle fiber may be reproduced entirely by regeneration. By this direct implantation of the nerve into muscle tissue, Heineke was able to obtain in rabbits muscle contraction from faradic stimulation of the implanted nerve as early as eight to fourteen days after operation.

These authors have gone even farther by establishing "Neurotization" of the paralyzed muscle by means of direct contact between paralyzed and normal muscle. Erlacher paralyzed the *M. biceps brachii* in the animal by resection of the musculo-cutaneous nerve. Then the paralyzed muscle was split longitudinally and a flap from

the pectoralis or deltoid muscle was inserted into the opening. After forty-eight days faradic stimulation of the normal pectoralis muscle caused contraction of the paralyzed biceps. This suggests that nerve supply actually had grown into the paralyzed muscle, a view which was soon confirmed by the histologic findings showing the transition of the terminal filaments of the motor nerve from the healthy muscle tissue into the paralyzed.

It appears possible, therefore, from the experimental evidence, that direct implantation of live nerve as well as the attachment of muscle to

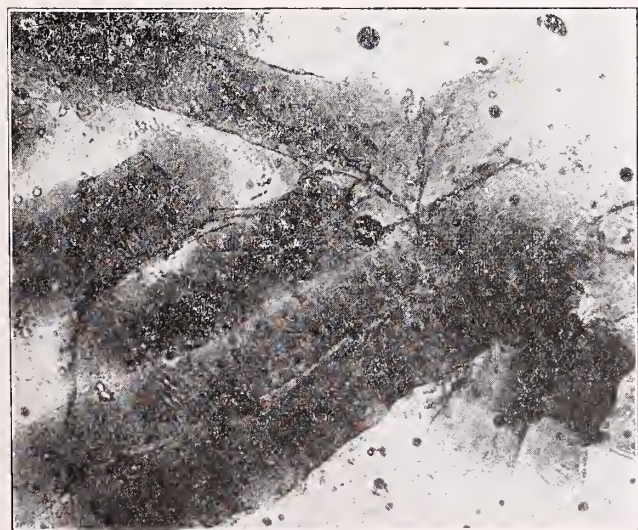


FIGURE II
Spastic paralyzed muscle

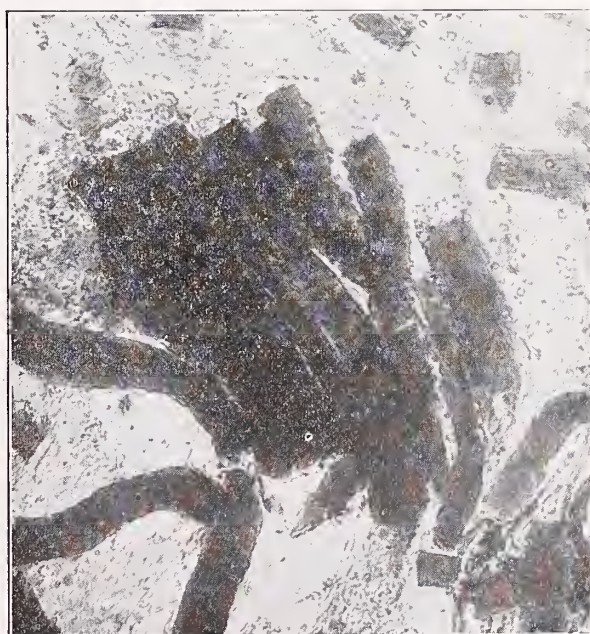


FIGURE IV
Six weeks after operation, reappearing striation

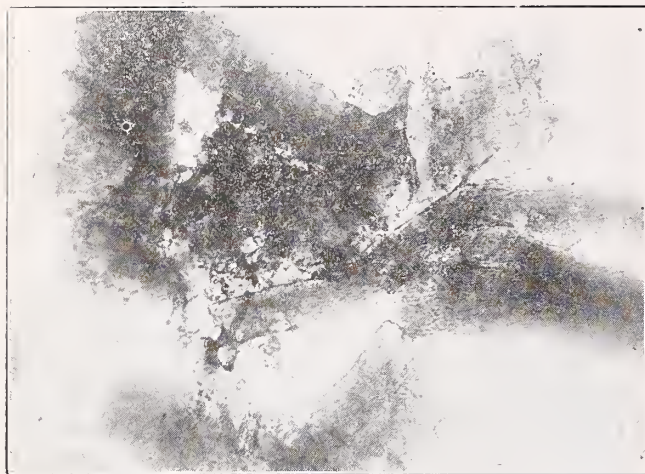


FIGURE V

Sixteen weeks after operation; nervous and muscular regeneration

muscle may lead to the restoration of function in the paralyzed muscles. The authors even went one step farther by asserting the possibility of oversupplying healthy muscle tissue with additional supply of motor nerves by direct implantation, or, as they termed it, "Hyper-neurotization." That it is possible for a healthy muscle endowed with the normal nerve supply to take up a surplus of nerve elements is maintained by Erlacher, from his experiments on guinea pigs in which the N. ulnaris and N. medianus were implanted into the normal M. biceps. After twenty-eight days faradic stimulation of the implanted ulnar nerve caused contraction of the muscle in the same way as did the stimulation of N. musculocutaneus. Histologically, very fine, new formed fibers with end plates were seen in the normal muscle fibers at the point of implantation.

These new developments in the physiology of regeneration of motor nerves were the stimulus

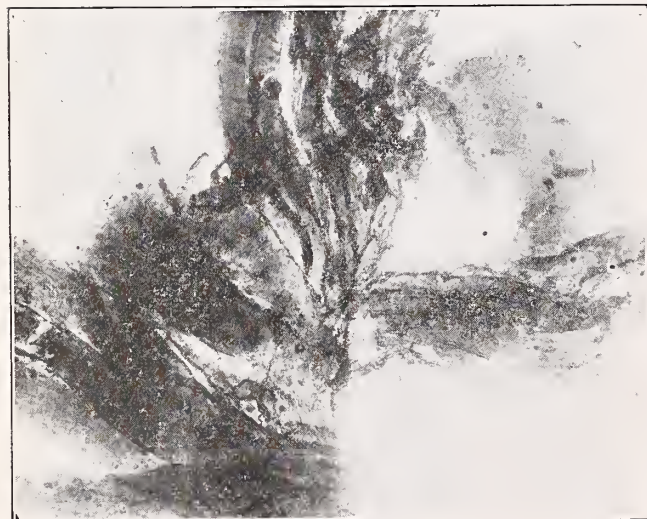


FIGURE VI

Case T. A. Sixteen weeks after operation; nerve regeneration

for my investigations which were carried out in the laboratories of Dr. D. J. Glomset in Des Moines and of the Iowa State University in Iowa City with the valuable co-operation of Drs. D. J. Glomset and Howard L. Beye.

I. Animal Experiments.—A series of seven dogs was used and the following technic employed: An incision is made over the anterior surface of the thigh, the anterior crural nerve is isolated and divided high up. Then a posterior incision is made over the gluteal muscles, the sciatic nerve isolated and split in halves longitudinally, one being spliced off and inserted into the M. rectus femoris and fastened with catgut sutures. The results in two animals must be eliminated entirely because the section of the crural nerve was incomplete. In three other dogs the function of the quadriceps muscle was restored but the implanted nerve did not respond to electric stimulation; this was also due to the rapid regeneration of the divided crural nerve. For this reason longer pieces of the crural nerve were resected and when this was done a better attachment of the implanted nerve to the muscle was obtained. In one dog it was found that the implanted branch of the sciatic nerve had healed into the muscle with extensive ramification, sixteen weeks after the operation.

In another animal one inch of the anterior crural nerve was resected. Though the animal has not yet been sacrificed, and therefore there is, as yet, no anatomic evidence, still it was possible to stimulate the implanted nerve by stronger faradic currents, making it very probable that in this instance the normal neuromotor contact had been accomplished.

II. Histology.—The method used for staining the motor end fibers and end organs was the gold chlorid method of Fisher and Levy. Normal human muscle with this stain has a reddish blue color, and shows distinct transverse and longitudinal striations. The nervous elements are stained from dark red to black and show abundant reticular ramification. One also sees plainly single nerve fibers attaching themselves to the individual muscle fiber with end plates and end bulbs.

Approximately the same picture is seen in normal dog muscle, except that the muscle fibrillae are smaller and more slender and that the striation is somewhat less distinct. There is, too, an abundance of nerve elements in reticular arrangement.

In the spastic paralyzed muscle of the human the muscle fibers appear more or less swollen, edematous with a remarkable lack of striation, but with apparently normal supply of nerve elements arranged in the usual reticular formation.

Three weeks after "paralyzation" the muscle elements are seen in a state of degeneration and disintegration. There is lack of transverse as well as longitudinal striation. A fair amount of nerve elements in reticular arrangement is present. Since in this case complete anatomical and functional regeneration of the anterior crural nerve was found a few weeks later, the nerve elements here may be

considered already as signs of beginning regeneration.

After six weeks the muscle elements are also found in condition of regeneration and longitudinal striation again becomes visible.

Sixteen weeks after operation the muscle finally shows complete regeneration in all parts supplied by the regenerated crural nerve; striation, longitudinal and transverse, terminal ramification of nerves; the vastus externus part, into which ramifications of the transplanted sciatic nerve may be followed is in less advanced stage of regeneration and shows but few nervous elements.

Reneurotization by directly implanted nerve does not seem to take place very rapidly, and it is plainly handicapped by the regeneration of the normal nerve supply. Hence, I believe, the difficulty of stimulating the implanted nerve by faradic current. I believe, I succeeded in getting faradic irritability in the implanted nerve in one instance only. These findings make the question of "hyperneurotization," or the creation of additional nerve supply for a muscle, a very problematic one. Upon resection of the motor nerve, degeneration of the muscle ensues very quickly; it occurs simultaneously, with or even prior to the disappearance of end plates and bulbs. Regeneration of nerve elements could be seen in from three to six weeks after section. It is followed by the regeneration of muscle fibers indicated by reappearance of longitudinal and transverse striation.

Demonstration of the clinical applicability of the method was attempted in three cases of infantile paralysis. They all represented a pes calcaneus, due to the paralysis of the gastrocnemius and soleus, as residual deformity; the long flexors of the toes and peronei had good or fair function.

From a lateral incision made behind the fibula from two inches below its head to two inches above the external malleolus the space between the soleus and the deep muscles of the calf was dissected. The posterior tibial nerve was isolated and split longitudinally. One-half of it was pulled through a slit in the gastrocnemius muscle and firmly fastened with catgut sutures. Then the opposing surfaces of the soleus and of the underlying deep flexor muscles, or the peronei, were scarified, and the raw surfaces united by ascending sutures, pulling the tendo Achillis upward. Casts were applied in equinus position, and muscle exercises were started as soon as possible.

Active contraction of the gastrocnemius was noticed as early as four weeks after operation. In the case operated last (L. S.) the muscle has gained in power within four months almost to the extent of assuming normal function. The patient walks with very little limp in ordinary high top shoe, and the power of the muscle is taxed with every step foot.

when the weight is thrust upon the front part of the

Histologic examination of the gastrocnemius muscle showed at the time of operation complete degeneration and loss of longitudinal and transverse striation of the fibers.

Sixteen weeks after the operation numerous nerve elements were seen in dendritic arrangement with longitudinal and occasional transverse striation of the muscle fibers.

The high power microphotographs show the muscular striation very distinctly, also indication of end bulbs in the terminal ramifications of the nerve elements.

The keystone of this study is the question of the possibility of a motor impulse being transmitted to a paralyzed muscle through physiologic channels, i. e. by directly implanting live nerve upon paralyzed muscle tissue. Though the evidence which I have tried to introduce is as yet small and inconclusive, this much may be said of the problem, that direct neurotization of paralyzed muscle is at least probable.

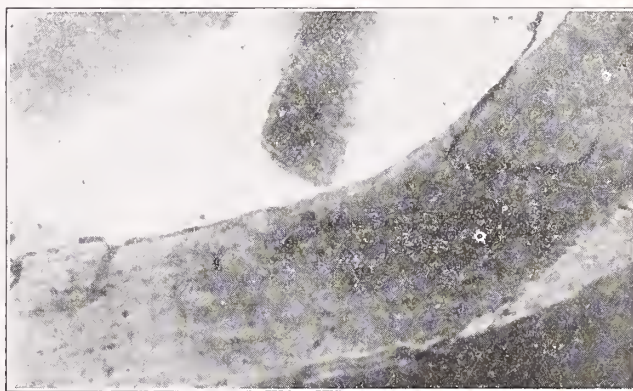


FIGURE VII
Reappearing striation

Neurotization of healthy muscle by direct implantation of additional nerve, however, seem rather improbable according to my findings, since most of the efforts to make the implanted nerve work physiologically were blocked by the speedy regeneration of the resected nerve.

In the clinical cases, where such interference did not exist—since there was a paralyzed muscle to start with—the evidence was much stronger. The paralyzed gastrocnemius muscle developed visibly in power and function in all three cases. But here again the mechanical advantage which was given to the muscle at the operation by matting it to the active flexors or peronei in proper position must be discounted. But even at that, this latter factor of impulses being transmitted from muscle to muscle by direct attachment is surely of great value for the functional education of the paralyzed muscle, and this co-operative muscle action again stimulates and invites motor nerve regeneration if the physiologic conditions necessary for it are provided.

Congenital Hypertrophic Stenosis of the Pylorus

With Report of Three Cases

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CONGENITAL pyloric stenosis is one of the diseases concerning which medical knowledge is of comparatively recent date. Practically all known about it dates from Hirschsprung in 1888; at that time it was considered a rare disease. Recent literature, however, is so full of newly reported cases that it is beginning to be regarded as a rather common affair. In the last decade, each year has shown a surprisingly proportional increase in the number of reported cases. According to Ibrahim, four years ago the number of reported cases and publications on the subject amounted to more than four hundred, and this more than doubled in the two years following.

This rapid rate of increase must mean one of two things, either that the disease is on the increase, or that heretofore it has been escaping a correct diagnosis—the latter is the more likely. Either reason justifies a report, especially of local cases, and a review of the points in symptomatology and diagnosis upon which the recognition of the disease depends.

During the last three years it has been my privilege to see three of these cases in Des Moines. The first of these was seen through the courtesy of Doctor Holloway.

Case 1. Baby, Robert N.—was born November 3, 1912, at a normal, full term labor, and so far as detectable, in every respect a perfectly normal and healthy eight pound, male child. The baby was breast-fed, and gained weight until toward the end of the second week, when he began to regurgitate his feedings. At first only a small amount was regurgitated at times, after an occasional feeding, but in the course of about three days, the regurgitations increased to the extent that they occurred after nearly every feeding, and were repeated until almost the whole of the feeding was brought up. When a feeding was not followed by vomiting, an exceptionally large amount was brought up after the next feeding. After the first three or four days, the emesis was of a projectile character, that is, thrown up suddenly, clear out of the child's mouth, in the form of a jet or spurt. There was no evidence of its being associated with any nausea or pain. The vomited material consisted of milk, slightly curdled, and mixed with a small quantity of mucus. There was never any blood or bile detected.

Analysis of the stomach contents, November 28th: Stomach was aspirated two and one-half hours after nursing. The amount obtained is 40 cc. The contents consists of milk, slightly curdled,

throughout which a moderate amount of mucus is intimately mixed. There is no visible blood. There is no bile, neither is there anything suggestive nor characteristic about the odor. Free hydrochloric acid is absent; the total acidity is forty; lactic acid is present. Microscopic examination shows fat globules and a granular structureless debris, consisting largely of casein. There are no long bacilli, sarcinae, yeast cells, red blood cells, epithelial cells, or leukocytes. The Weber reaction for blood is negative. Analysis of the vomitus two days later gave practically the same result, with the exception that a trace of free hydrochloric acid was found.

Less conspicuous, yet prominent, were the subjective symptoms of constipation and emaciation. During the first two weeks of the baby's life, there was no trouble whatsoever with the bowel. It had three normal-looking stools a day. But when the vomiting began, constipation set in. And as the vomiting increased, the constipation became more marked, until during the latter part of the third week there was only one small hazel-nut sized movement per day, and this usually the result of an enema. The stools were yellowish-green in color, and very pasty in character. They consisted largely of mucus, and contained no undigested casein, no visible fat, blood or pus. Microscopic examination showed nothing of a pathologic nature. The Weber test for blood was negative.

The baby lost weight rapidly, weighing less than five pounds at the end of the third week of life. Repeated physical examinations of the child revealed nothing of importance, save the emaciation, until the latter part of the third week. Visible peristaltic movements were then observed in the left upper quadrant of the abdomen, passing from just beneath the left costal arch downward and toward the right to a region just above and to the right of the umbilicus, where they disappeared. The peristaltic movements soon became very vigorous and stood out in a definite relief form, as large as the hemisphere of a golf ball, as they passed down over the upper surface of the abdomen. At times a second wave began just beneath the costal arch before the first had disappeared to the right. The movements seemed to be excited by taking food or by rapid tapping with the palpating finger. A definite succussion note could be obtained, and squirting noises were quite audible when the stethoscope was placed over the pyloric region. Palpation showed no evidence of any tumor, but the stomach's stiffening could be definitely felt.

Because of these definite, large, and vigorous peristaltic waves over the normal stomach's area, the persistent vomiting and retention of food, as shown by the stomach analysis, the obstinate con-

stipation, the emaciation, and the age of the patient, the diagnosis of hypertrophic stenosis of the pylorus was made, even in the absence of a palpable tumor. Because of the rapid and persistent progress of the disorder, in spite of systematic lavage and frequent feedings, surgical intervention was advised, and on December 1st, a posterior gastro-enterostomy was made.

When the abdomen was opened, the stomach was found greatly dilated, and at the pylorus a definite oval-shaped tumor about the size of a large hazelnut was observed. This was of a firm fibrous consistency. Death occurred twelve hours later. We were permitted only a limited autopsy, hence obtained only the ventriculus for a pathologic report. The stomach is somewhat larger than normal. The pylorus forms a slightly elongated tumor about the size of a hazelnut, which is firm and semi-fibrous in structure. The entire pylorus is greatly thickened, and with the tumor, forms a thick, spindle-shaped tube which projects slightly into the upper portion of the duodenum. The walls of the thickened pyloric segment measure 5 mm. in thickness, as contrasted

The pyloric vestibule also shows a thickening of the muscular wall, which measures 1.5 mm., or nearly that of the normal pyloric wall in a healthy five months old child. The remaining portion of the stomach's wall, shows evidence of hypertrophy to a

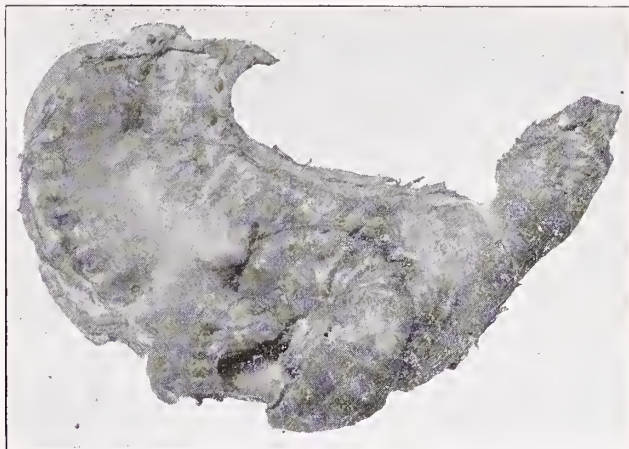


FIGURE II

Case No. 1 (b)—Stomach showing tumor in pylorus



FIGURE I

Case No. 1 (a) Robert N.—Showing elevation in left epigastrium due to visible peristalsis.

with the normal infant pyloric wall at five months of age, which according to Still¹, measures only 1.7 mm. The circumference of the pylorus found is 4 cm., while the lumen of the pyloric canal is practically 2 mm. in diameter. A large fold of mucous membrane occupies a position in the pyloric canal.

lesser extent. On the posterior wall a good gastro-enterostomy opening occurs.

Microscopically, the greater portion of the thickening is seen to be due to a hypertrophy of the circular muscle fibers. There is very little increase in the longitudinal muscular layer. The submucosa and mucosa are practically unchanged.

Case 2. Paul P—, the son of a physician, was born December 31st, at a normal, full term labor, and as far as detectable was a healthy, well developed child, weighing nine pounds. The baby did well until the eleventh day after birth when he began to regurgitate his feedings. Within three days the regurgitations assumed a definite projectile character. Often more food than given at the previous feeding was brought up. Constipation became marked but occasionally a fair stool would be obtained with an enema. On about the fifth day of illness definite peristaltic waves, similar to those described in the first case, were observed over the region of the stomach and a little later a small tumor about the size of a hazelnut was definitely palpable, just to the right and above the umbilicus. The baby gradually lost weight, weighing five pounds at the end of the fourth week. Its features were pinched and it looked starved. Its appetite was exceptionally good, but often soon after eating it would cry and draw its mouth as if in pain. The subsequent course was one of ups and downs, until the fifth or sixth week when the general trend was toward improvement, and at present the child is a healthy, robust youngster, two years old.

Case 3. This patient was seen with Doctor Baker. It was a male child, the first born, and gave a very similar history to those already mentioned. The result was favorable on a breast milk management.

Had the first case presented the palpable tumor of the pylorus, which in many cases is not present, these cases would have represented practi-

1. Still. The Practice of Pediatrics, Carr, 222.

cally all the characteristic features given in the symptomatology of congenital hypertrophic stenosis of the pylorus.

The character of the vomiting, which is the earliest symptom, is, as described by Hutchison²,



FIGURE III
Case No. 2 (a)—At six weeks of age

Scudder³, Lowenberg⁴ and others, persistent and often projectile. It is usually without evidence of nausea or pain. The frequency of the regurgitation varies from three or four times a day in the beginning, to many times later in the course.

The vomitus may equal the total quantity of food taken which may be retained in the stomach over one or more feedings. It consists of the milk previously given, more or less curdled, and later in the course mixed with mucus and occasionally blood. Bile is found rarely and only in the beginning of the course (Lowenberg). The stomach does not empty itself in the usual time (two hours for nursing, three hours for artificially fed infants) as is easily demonstrated by aspirating, or by the use of the Roentgen rays. In a great many of these cases there is a tendency for the vomiting or other symptoms to subside for intervals, especially, following changes in the diet, and again to recur as violently as ever. (Pfaundler and Schlossman⁵).

The constipation is usually marked and is due to the failure of the food to enter the intestine. Its degree, therefore, is an index to the completeness of the obstruction. In the intervals of improvement, more or less copious milk stool may be passed.

The loss of weight is the direct result of starvation incident to the obstruction (Lowenberg). The desire for food is usually present and often increased.

Physically the child usually presents a distention of the abdomen above the umbilicus, due to the distended stomach. This appears more marked as contrasted with the flat area below the umbilicus where the coils of intestine are empty and collapsed. This is shown fairly well in the picture of the first case here reported. However, the most important diagnostic feature of the obstruction is the presence of large visible peristaltic waves, having the characteristics de-



FIGURE IV
Case No. 2 (b)—A few months later

scribed in this report. This in the infant, as in the adult, is regarded as pathognomonic of some type of pyloric obstruction. It is not continual, therefore several minutes at a time should be spent in watching for it. The stiffening of the

2. Hutchison, R. *Brit. M. J.*, 1910, ii, 1021.
3. Scudder. *Sur., Gynec. and Obst.* 1910, 374.
4. Lowenberg. *N. Y. M. J.* 1911, 270.
5. Pfaundler and Schlossman. *Dis. of Children*, iii.

stomach is as easily felt by the palpating hand, as the waves are seen by the observing eye. Naturally, the succussion note and squirting noises about the pylorus would be expected.

In many cases, the hypertrophied pylorus is definitely palpable as a small hard tumor in the normal region of the pylorus. In other cases, as in one of ours, it is obscured by the over-riding lobe of the liver.

Concerning the pathology of this condition all observers agree. The pyloric tumor which is always present is usually oval in shape, of firm consistency, having a smooth surface and being perfectly free from adhesions. Its size varies from that of the end of the finger to that of a walnut. Its formation is due to hypertrophy and hyperplasia, involving principally the circular muscle fibers. The longitudinal fibers are, to a less extent, involved. The muscle fibers are not only increased in number but each individual fiber is thicker than normal (Davidson).

The pyloric mucosa may also be thickened, and is usually thrown into folds which project as ridges into the pyloric vestibule (Hutchison). The connective tissue may also show an increase, or occasionally a definite fibroma of the pylorus may exist (Curtis⁶).

The principal features in establishing a diagnosis are: (1). An infant in the first eight weeks of life. (2). The persistent vomiting. (3). Constipation. (4). Progressive loss of weight. (5). Visible large peristaltic waves over the stomach area. (6). The palpable tumor. The usual conditions from which it must be differentiated are gastritis, intussusception, other congenital strictures of the alimentary canal, and simple spasm of the pylorus.

In gastritis, it is that form in which there are marked stomach symptoms and no diarrhea, but normal stools, where the confusion exists. However, here there is usually rapid cessation of vomiting as soon as the infant is placed on a water diet. An occasional diarrhea often occurs in the midst of normal stools (Cumston⁷). A history of dietetic errors will usually be obtainable, and finally the absence of retained food, the absence of peristaltic waves, and the absence of a palpable tumor will serve to make the differentiation. The finding of bile in the stomach contents, or examination with bismuth and the X-ray may be further diagnostic points.

The facts by which we may exclude intussusception are the absence of the sausage shaped tumor and the bloody stools. The absence of pain and marked prostration, and a few days

later in the course, the absence of abdominal rigidity and distention, together with the developing peristaltic wave over the stomach, and the palpable pyloric tumor. Strictures from other congenital malformations are more rare, express themselves early, and are more serious than those of the pyloric syndrome. Congenital stenosis of the esophagus causes regurgitation as soon as food is taken, and with no change in the milk. In congenital strictures of the intestine, the meconium is not always expelled. The abdomen is distended and bile is found in the vomitus. The Roentgen rays may be of service in differentiation.

These cases resemble marasmus only in the wasting of tissue and loss of weight. With these there is hardly an excuse for mistake.

The differentiation between hypertrophy and true spasm of the pylorus is, however, not so easily established. As pointed out by Morse⁸, of Boston, the symptoms are due to the same cause, namely the obstruction of the pylorus. Therefore, the differentiation rests largely on the constancy and completeness of the obstruction (both of which would naturally be less in the spasm), as well as upon the shape of the palpable tumor. Morse mentions the following points of similarity: (1). The onset of the symptoms are the same. (2). Vomiting of an explosive nature is common to both. (3). Constipation and loss of weight occurs in each. (4). A palpable tumor is sometimes present in a spasm and sometimes absent in a congenital hypertrophic stenosis.

Now, not knowing to what extent spasm is a factor in the hypertrophic form, and knowing that a tumor may be present or absent in either case, it is easy to see how impossible it is in some cases to differentiate a severe spasm from the milder hypertrophic forms. However, certain features usually stand out to enable us to differentiate between spasm and more complete obstructive form of the true hypertrophy. The following differential points are taken largely from Morse's article: (1). The constipation is never so marked or persistent in spasm. (2). In the spasm the tumor if present is small and cord-like. (3). While large tumors not palpable in life have been found at autopsy, yet Morse believes the inability to palpate the tumor especially when the abdomen is relaxed under an anesthetic, is strong evidence against hypertrophy. (4). Variation in the size of the tumor during the examination he regards as positive proof of spasm against hypertrophy. (5). If the condition develops in a breast fed baby, other

6. Curtis. Med. Record, 1909, lxxv, 539.

7. Cumston. Interstate Med. J., 1911, 405.

8. Morse. Amer. J. Dis. of Children, 1911, 1, 373.

things being equal, he believes the chances are more in favor of hypertrophy; on the other hand if artificially and irrationally fed, the chances are little more in favor of spasm. (6). Other things being equal, an excessive acidity of the stomach is regarded as favoring spasm. (7). Dilatation of the stomach when detectable is in favor of a hypertrophy. (8). Scudder holds that if there is a tumor at all in spasm it occurs only during contractions.

Holt believes that these conditions grade into each other and that there is not a definite line of distinction clinically or pathologically.

Lowenberg of Philadelphia in discussing the diagnosis states "Projectile vomiting occurring early and apparently without cause in an otherwise healthy appearing breast fed infant, where it can be proved that the mother's milk is not at fault, should always excite suspicion of hypertrophic stenosis."

With reference to the etiologic factors spoken of by those who have studied this subject, it is of interest to note that Hutchison found 80 per cent. of the cases to occur in boys, and often in the first child. Six out of twenty cases were in families belonging to a member of the medical profession. Others have observed the conditions in association with other malformations; Askby reports a case with an imperforate rectum, and Brant, a case with a stenosis of the ileocecal orifice. All observers agree that the most frequent age is from three to five weeks after birth.

Concerning the hereditary tendency, Henschel has found three babies in the same family. Freund, Koppen and Ibrahim have recorded similar cases. The first patient of this series was a child of English parentage, the father an electrician who had a valvular heart lesion, the mother, three years previous had suffered from a nervous breakdown, while in college. A grandfather died of cerebral disorder at forty-nine years of age. One uncle, a college student, is at present recovering from a nervous attack. The mother's grandfather, one uncle, and one aunt died of paralytic strokes. And one of the mother's brothers suffered from a severe stomach disorder in the beginning of infancy, which has continued to bother him more or less during his entire life; and the father has one sister with congenital dislocated hip. In the second case reported, the father has a gastric ulcer from which he has had severe hemorrhages, and the grandfather has had gall-stones removed. These points are etiologically interesting, but of no diagnostic significance.

In dealing with the cause of this condition one is unfortunately forced to depart largely from

cold facts and delve into the field of scientific theories. Of late much has been written, beliefs have been advanced with their long and sequential lines of evidence, but concerning the true cause very little worth while has been said.

In brief, there are those who believe the condition to be congenital, and there are those who believe the hypertrophy to be due alone to the overworked spastic muscle. There are still others who accept the congenital idea of the hypertrophy, but believe the symptoms due to spasm of hypertrophied muscle, and again some hold that the hypertrophied mucous-folds and mucous plugs play an important part. To enumerate the details of argument would be superfluous. Kaup, in 1909, after reviewing 346 articles, decided that the etiology was still a mystery.

With the etiology so obscure it is not surprising that opinions concerning the treatment should vary, and accordingly surgical and nonsurgical methods, without any well established indications to tell us what cases should be handled by one or the other, are described.

Certain medical men, of whom Hutchison is one of the more radical, believe that nearly all of these cases get well if handled by judicious medical principles. He reports seventeen recoveries out of twenty cases in his private practice. Heubner records nineteen recoveries out of twenty-one; Stark eleven out of twelve; Bloch six, all did well; Bendix⁹ thirty recoveries out of thirty-two; all of these treated medically. At the same time statistics are given showing a death rate of 50 per cent. in those treated surgically.

On the other hand the surgeons, of whom Scudder and Richter¹⁰ are the more extreme in their views, present just as favorable statistics. Scudder reports fourteen cases with only one death; Richter, twenty-two cases with three deaths; Stillman¹¹, a group of ten surgically treated cases with only one death. Scudder emphatically states that he believes practically all patients with true congenital hypertrophy die under the medical management, the successfully treated medical cases being those of spasm. Hutchison admits that possibly an occasional patient dies when treated medically, which might have been saved surgically, but there is no way of determining that particular case, for many go along for days between life and death, as it were, and ultimately recover. However, the greater number of reports which I have consulted hold that the surgical intervention is indicated by the degree of obstruction and emaciation, and the persistency of the trouble under medical manage-

9. Bendix. *Medizinische Klinik*, Berlin, 1912.

10. Richter. Quoted from Scudder.

11. Stillman. Quoted from Scudder.

ment. (Lowenberg, Morse, Holt and others). Each case is somewhat of a problem in itself, and watchful care should be taken, especially in those cases with marked constipation or a palpable tumor, not to delay the operation too long.

Recently Pisek, LeWald¹² and Mixter of Boston have demonstrated the value of Roentgen rays in establishing the degree of the stenosis and hence X-ray examinations help to determine the advisability of an operation.

Surgically considered, the modified pyloroplasty and posterior gastro-enterostomy seem to hold the favor.

Medically considered, Hutchison states that the essentials are careful feeding, careful nursing, and gastric lavage. Bendix as well as Hutchison, regard the breast milk the best food to rely on when possible. Bendix advises for the first day nothing but water, later he allows the infant to nurse but restricts the amount and increases the number of feedings. He insists that the physician must not allow himself to be dissuaded from the breast feedings, though the fifth or sixth week may pass before distinct improvement begins. When for some reason artificial feedings must be used, those leaving no residue and having the greatest chance of passing the pylorus (as suggested by Lepage), namely peptonized milk, whey and albumin water, meat juices and other foods

may be tried. In any case the feedings should be frequent and small in amount, as drams i to iii, every hour, for as Lowenberg states, it is better that one or two ounces be retained in twenty-four hours, than ten ounces be given and vomited. The feedings may be increased in amount and lengthened in time as the improvement in each case demands. Lavage should be done once or twice daily or less, depending on the severity of the case, because it removes all stagnating material and washes out the mucus; warm sodium bicarbonate, drams i to the pint is the solution usually used.

In the severe cases Hutchison advises rectal enemas of normal salt solution ounces ii to iii, repeated two or three times a day, to supply the need for water. Bendix sometimes gives mother's milk nutrient enemas.

Warm poultices over the epigastrium as well as keeping the child quiet, and on its back immediately after feeding, is thought to be of some benefit. Holt has found no good from heat and little from medicine.

Hutchison regards drugs of little benefit, and states that although easily gotten along without, opium in small doses is the only drug he has found of any value. Other men find the anti-spasmodics, belladonna, strontium bromide, etc., of little value.

12. Pisek & LeWald. Med. Record, 1912, 1102.

1222 Equitable Building.

Cerebral Abscess, Probably Primarily Due to a Suppurative Tonsillitis

TOM BENTLEY THROCKMORTON, M. D.

Des Moines

IN reporting this case of cerebral abscess, I am prompted to do so, not because of any rarity in the occurrence of abscess formation within the cranial cavity, but it is rather on account of what seems to have been an unusual primary source of infection which later produced an involvement of cerebral tissue.

In considering the etiology of brain abscess, it is a matter of record that suppurative conditions dependent upon middle ear disease and head traumata are perhaps the two sources most prolific in the production of the particular type of disorder now under consideration. Chronic purulent otitis media is undoubtedly the most important etiologic factor and is the cause, according to various estimates, of from one-third to one-half of all cases. It is held by some writers that injuries to the soft or bony parts of the head, with or without fracture, cause fully one-fourth of all extra—and intradural abscesses. A simple contusion of the head, according to von Bergmann¹, however, is not capable of producing a brain abscess. Carious processes of the bones of the skull, particularly of the ethmoid and sphenoid bones, have been known to be followed by an intracranial involvement, whereas, of late, rhinogenic brain abscesses have become more frequent according to Kuhnt, Dreyfuss² and Moritz³. Erysipelas of the head and face, also have been productive, on rare occasions, of an abscess condition of the brain, and it is a known fact that metastatic abscesses, usually multiple, may be caused by a suppurative or gangrenous condition of a lung, empyema, general pyemic states, ulcerative endocarditis, or in fact infections of any organ. Even such an innocent appearing lesion as a whitlow, according to Eiselsberg⁴, has been the primary focus of an infection which later developed into a cerebral abscess, and Nielson⁵ has observed a similar condition as a sequel to a carbuncle.

From these brief remarks concerning some of the etiologic factors entering into the production of brain abscess, it will be gleaned that suppurative or infective processes play the all important role, whereas other factors are of a major or

minor import only as depends upon their influence in the permittance of the entrance of microorganisms into the cranial cavity. In the case to which I will now invite attention, I would ask that special consideration be given to what appears to be a logical sequence as regards the primary suppurative focus, its later extension to other parts, with a terminal process involving brain tissue.

Case Report.—A young adult male, twenty-one years of age, a native of Illinois, and a farmer by occupation, was first seen by me on September 24, 1912. His chief complaint was inability to open the jaw. The duration of this condition had extended over a period of some ten months. The family history is negative, and there is nothing of special note in the personal history save it is said that he had an attack of typhoid fever at six years of age, but otherwise he has always been free from disease and has enjoyed excellent health.

The onset of his present trouble dates back to November, 1911, at which time he states that he suffered from a severe attack of "sore throat." The soreness of the throat increased and eventually terminated in an abscess on the right side, which necessitated the lancing of the corresponding tonsil. The angina was so severe that the mandible could be lowered but to a small degree, and while a slow partial recovery was made as far as the pharyngeal and tonsillar manifestations were concerned, the function of the lower jaw remained in an exceedingly impaired condition.

In February, 1912, an abscess made its appearance in the right temporal region and was due, in all probability, to septic extension from the unhealed throat condition. While no history of trauma was obtainable, the fact that he was formerly accustomed to take an active interest in the art of boxing may be worthy of some consideration as a possible predisposing or contributing factor.

Four months following the appearance of the temporal abscess (June, 1912) he was operated upon and the inflammatory process, which particularly centered about the zygomatic region and to some extent involved the tissues about the eye on the right side, was opened and drained. His stay in the hospital was of short duration, some seven or ten days in all, after which time his home physician administered to his needs. The sinus about the outer angle of the right eye finally ceased to discharge and the opening closed, but the one which opened below the zygomatic process never entirely healed but continued to discharge purulent material from time to time. The operation, however, failed to relieve the

1. Von Bergmann. *Die Chirurg Behandl. d. Hirnkrankheiten*, Berl., 1899.

2. Dreyfuss. *Die Krankheiten des Gehirns und seiner Adnexe im Gefolge von Nasenkrankheiten*, Jena, 1896.

3. Moritz. *British Medical Journal*, 1905.

4. Eiselsberg. Cited by H. Oppenheim, Edition V, 858.

5. Nielsen. *Ibid*:



FIGURE I

Showing the site of the cerebral hernia. The opening of the sinus at the outer angle of the right eye, and the edematous condition of the right upper lid, are to be noted.

ankylosed condition of the right mandibular joint.

Examination at the time he came under my observation (September, 1912) showed a considerable prominence of the tissues covering the right zygomatic region. There was some edema of the parts, which were tender to pressure. Below the zygomatic process, the site of the sinus was manifest, and from its opening a small amount of a thick purulent material was exuding. Subsequent examination of a smear of the discharge showed the presence of many polymorphonuclear cells and staphylococci.

There was no evidence of hebetude or mental inertia and questions concerning himself and his past illness were answered promptly and intelligently. The impairment of the jaw movement, however, was extreme, there being an inability to separate the incisors more than one-eighth of an inch owing to the ankylosis of the right mandibular joint.

The physical condition of the man seemed good. A general visceral examination revealed nothing of special note, save the pulse rate was a little quickened and the systolic blood pressure registered only ninety-eight millimeters. The oral temperature was 99 F. The ocular movements were good and the field of vision, as roughly tested, was normal; no exophthalmus was noted, but there was a slight edema of the right upper lid. There was no aural discharge and the sense of hearing was unimpaired.

Urine examination was negative but hemanalysis revealed the following: hemoglobin 90 per cent (Tallquist), erythrocytes 6,000,000, leukocytes 16,600, color index 0.75.

The diagnosis of right temporal necrosis with partial ankylosis of the jaw, due to an infective process, was made and operation advised⁶. Accordingly the zygomatic process and a portion of the neck of the right condyle, which was found to be necrosed, were resected and a drainage tube of sufficient caliber inserted, so that the upper end of the tubing protruded from above the zygomatic fossa while the lower end emerged at a point corresponding to the angle of the jaw. The result of this operative procedure did not accomplish as much as had been hoped for. There was considerable discharge from the wound but the range of jaw movement still remained limited in spite of the fact that the ankylosis had appeared to all intents and purposes to have been sufficiently broken up at the time of operation. The post operative convalescence of the patient was uneventful, but realizing that more freedom of jaw movement and a more ample drainage of the surrounding tissues were necessary, a second operation was performed fifteen days subsequent to the first one. At this time no effort was made to save the temporal muscle. The remaining portion

6. (All of the operative work pertaining to this case was performed by Dr. C. E. Ruth, through whose courtesy I am permitted to make this report.)

of the condyle and all of the neck of the mandible were removed. Anterior to, and above the temporal articulatory surface was found an area of bone, probably one-half by three-quarters of an inch square, which was entirely denuded of pericranial membrane. The infection had also extended along the direction of the old sinus which had formerly opened in the neighborhood of the right eye, hence free drainage



FIGURE II

Brain viewed from the right, showing the position of the abscess prior to the removal of its contents. Note the engorgement of the veins, with extension of the septic process along the venous channels in the frontal and parietal regions.

was instituted for this, as well as for the temporal region.

The post operative course, however, was not devoid of certain significant events. At irregular times, he began to complain of headaches, general in character. At times the cephalalgia was severe enough to interfere with his rest, and the pain did not yield to ordinary medication, although at first a free purge and a restricted diet usually gave prompt relief. Then gradually a congested and more pronounced edematous condition of the right upper lid became more and more apparent and this was accompanied by some protrusion of the eye ball. The headaches continued, and it was discovered that he had been resorting at times to the use of chloroform inhalations to ease the pain. The drug had been smuggled in to him by his father who stated that the boy, before entering the hospital, had been accustomed to use the drug on various occasions for relief from terrific headaches. It was then noted at times that he became somewhat mentally dull, but as a rule, he always tried to be cheerful, and insisted on having plenty to eat.

The gradually increasing right sided exophthalmus with a marked congestion of the upper lid, together with a sudden cessation of drainage from the sinus at the external angular process, pointed to a possible pocketing of pus somewhere within the orbital cavity, hence a fortnight following the second operation, a third one was performed at which time a small amount of pus was evacuated from the orbital cavity and drainage provided for. An ophthalmoscopic examination prior to this operation showed no swelling of the nerve head in either eye, but the

retinal veins were much more prominent on the right side.

Six days following this last operative procedure, he left the hospital, much against advice, and came to the office for daily dressings. A gradually deepening hebetude developed, although he always tried to appear cheerful at the time of his visits and denied having headaches of any consequence. The cardiac action was normal and his temperature varied from 98 F. to 99 F. Five days after leaving the hospital I was called to see the patient at his room in the city. I found him suffering from agonizing pain in the head, general in character. So severe was the pain that he pleaded for relief, which he was unable to obtain for himself as an empty box, formerly containing some preparation of headache powders, silently indicated, as it lay near the bed. The pulse rate was fifty-eight beats to the minute, his temperature a degree subnormal. There was marked hebetude. The right pupil was dilated and did not respond to light; the left pupil contracted, but the intra-ocular pressure seemed normal and equal. Apparently there was some slight rigidity of the neck muscles posteriorly, but no Kernig sign could be elicited. The deep reflexes were intact, but were somewhat sluggish on the left side. No extensor toe phenomena could be elicited, but the left plantar flexor reflex was somewhat in abeyance.

Believing that we were undoubtedly dealing with an abscess in the brain, the patient was removed to the

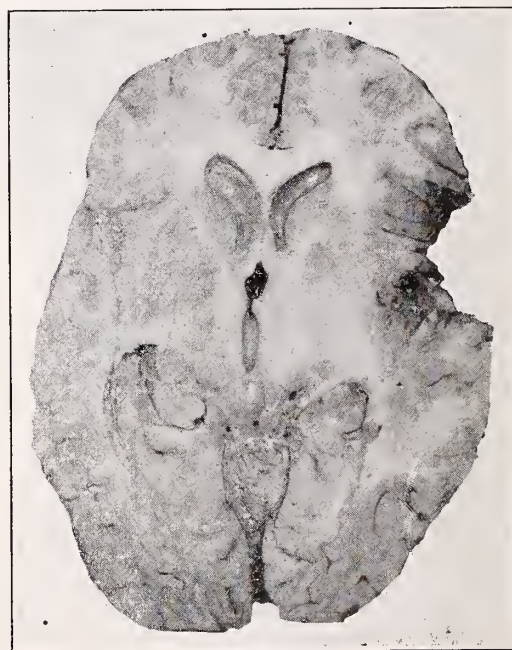


FIGURE III

Section of the brain through the abscess cavity. No other area of brain tissue was found involved. (Photos taken after brain was fixed in Kaiserling solution.)

hospital and an exploratory operation was decided upon as the only means of relief. The lack of localizing symptoms or clinical phenomena other than a right third nerve palsy; exophthalmus of the right eye associated with passive congestion and edema of the right upper lid; some diminution in the deep

reflexes of the left side, particularly of the lower extremity, associated with a sluggish plantar flexor, reflex, together with the fact that a septic process had been present about the right side of the face for practically a year, was proof sufficient that the disturbing process was evidently somewhere anteriorly in the right cerebral hemisphere. (The patient was a right handed individual.) The hebetude and distinct slowing of the pulse, unassociated with cyanosis, merely indicated a cerebral involvement and could not in themselves be of localizing value. Prior to operation, the pulse slowed down to forty beats per minute, but the respiratory movements remained about normal.

Accordingly, the right temporal region was exposed and on removal of the bone the dura mater was found to be tense, somewhat darkened in color and pulseless. Incision of the dura was immediately followed by the protrusion of cerebral tissue. There was no evidence of a leptomeningitis and no fluctuation could be felt. Careful insertion of the blade of a cataract knife at right angles to the brain tissue, to the depth of three-quarters of an inch or more, was followed by a discharge of a purulent, foul-smelling material. Fully an ounce of this fetid material escaped and more continued to drain after the insertion of rubber tubing. The pulse rate was 104 at the close of the operation. Subsequent examination of the pus showed the offending organism to be the *Staphylococcus aureus*.

The immediate effects of the last operation was to relieve the increased intracranial pressure with its concomitant train of symptoms. Although the third nerve paralysis continued, the exophthalmus gradually lessened but never disappeared; the mental faculties became brighter, but at times he was irritable, striking his father on one or two occasions. There was an irritability of the motor system as shown by a slight increase in the deep reflexes of the right lower extremity, a tendency to make clonus, and an indefinite extensor toe reflex by the Chaddock and Babinski methods. The reflexes of the left side showed no negative changes. With the relief of the increased cranial pressure, the general condition of the patient became encouraging. There was a sense of well-being, the appetite and sleep were good, and there was an absence of pain. The pus discharge gradually became lessened in amount, but a cerebral hernia developed.

On the second of December, or twenty-three days after draining the abscess cavity, the hernial protrusion was removed by means of an electric cautery without untoward effects. No anesthetic of any kind was used. Although the drainage tube had been removed for several days without resultant signs of increased intracranial tension from abscess formation or serum retention, some pus and necrotic brain tissue were found at this time and removed. By the ninth of December all drainage tubes were removed, and the patient was in excellent spirits; in fact, he talked encouragingly of his condition for the first time. Two days later the temperature rose from normal to 103° F. and was accompanied by an

agonizing headache and vomiting. Exploratory operation relieved temporarily the condition by evacuating some purulent material which was mixed with necrotic cerebral tissue. Although ample drainage was provided for, marked pressure symptoms again developed on the following day. So marked was the pressure that necrotic tissue was forced from the opening in the skull. Paresis of the left arm and leg was distinctly noticeable, the deep reflexes were diminished on this side, the left epigastric reflex could not be obtained, but the jaw jerk was plus.

Again operative interference availed but little, save evacuation of a considerable amount of serous fluid and disintegrated brain tissue. Within twenty-four hours there was total paralysis of the left arm and leg, and the patient died in profound coma.

An autopsy was performed by Dr. D. J. Glomset, six hours after death, and from the record, the following notes pertaining to the brain, are extracted:

"In the right temporal region is a large open wound, from which protrudes a semi-solid mass covered with a fibrinous exudate. The mass is oval in shape and measures three and one-half centimeters in its vertical diameter and four centimeters in its horizontal diameter. On opening the skull, the bulging mass is seen to be connected with and going into the right temporal lobe, involving about one-sixth of the lobe in its lower and anterior portions. The mass extends four centimeters into the brain substance in an irregular manner; when the center of the mass, consisting of pus, is removed, an irregular cavity is left in the brain. The meningeal vessels are injected and the sulci of Rolando and Sylvius, as well as others found in the frontal and parietal regions, are filled with a purulent material. The basal ganglia on this side are bathed also, to a more or less degree, in pus, and a large amount of purulent exudate is found lodged between the medulla and the base of the cerebellum. The dura mater, overlying the glenoid fossa, is markedly thickened and adherent to the bone, and the removal of this membrane from its bony attachment, shows many irregular pores in the bone. The synovial membrane of the right temporomandibular joint is thickened and rough. No other significant pathologic changes are found in the remaining organs of the body."

Comments.—From the foregoing statements, it is obvious that the diagnosis of the terminal process, *ie.*, the pus pocket in the brain, was not made until symptoms distinctly referable to an intracranial involvement were ushered in. True, the possibility of such a complication as a brain abscess had been not only considered, but its presence actually sought for, yet the only clinical evidence suggesting such a condition was that manifested by a slight edema of the right upper lid and some degree of exophthalmus. The evacuation of the small amount of pus from the right orbital cavity seemed of sufficient import, at the time, to warrant the assumption that perhaps by

pressure or other means, its presence was responsible not only for the exophthalmus, but also for the congestion of the retinal veins and the edema of the upper lid. Unfortunately, no history of headache was obtained until the confession of the father that the boy had been accustomed on previous occasions to make use of chloroform inhalations as a means of assuaging these periodic painful attacks. In the light of our present day knowledge of brain abscess, the value of such a statement becomes enhanced when we realize that one of the characteristic traits displayed at times by a cerebral abscess formation, is its tendency to the production of the so-called period of "latency." That such a period was present in this case is, to say the least, highly probable.

Just how the micro-organisms responsible for the abscess in the temporal lobe first gained access to the cranial cavity is not known, but in the light of the autopsy report it would appear that the most plausible route that the infection traversed was the one which passed through that portion of the skull anterior to and above the right tempormandibular joint, a spot made vulnerable by the loss of pericranial membrane. It will be recalled also that it was at a point corresponding to the denuded portion of bone that

the most marked inflammatory changes in the dura and surrounding tissues, had occurred. Whether or not the staphylococcic strain revealed in the pus smear taken from the facial abscess bore any relation to the strain of staphylococci recovered from the pus taken from the brain, is an open question inasmuch as the reports covering the bacteriologic examinations are not conclusive enough to warrant a definite answer.

In considering the relationship of the tonsillar abscess to the one occurring in the brain substance, I believe that we are warranted only in assuming that it was the septic process about the right temporal region that acted as the intermediary or connecting link between what would appear to be the primary and the terminal foci of infection. Whether trauma played any role as a predisposing or contributing factor, as far as the temporal abscess is concerned, I cannot with positiveness state, but it is fair to assume that injuries of the parts about the right face and head could have been easily received while the patient was engaged in the act of boxing, and that such injuries could have rendered these tissues more vulnerable to the reception and spread of septic material when the suppurating focus in the throat became manifest.

407 Equitable Building.

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The Journal joins in felicitating Dr. James Taggart Priestley, who in this number receives the highest testimonials of respect, affection and honor which the profession can give. The honor is the greater because it comes as the spontaneous expression of good will from his own city, where jealousies, if there are any, where ill feeling if it exists, most easily finds expression. The man who can live a generation or more in the sharpest competition and retain the affection of his associates, is indeed entitled to expressions of the highest regard as distinctly his own. It is delightful to feel that honors gained by manly struggles for the rightness of things may come at a time of mental and physical well-being, and not after the recipient has passed to a state of indifference. The Germans withheld public celebrations in honor of their scientists until the 70th birthday. How sad it would have been if Prof. Paul Ehrlich, who died August 20, 1915, had not received the public appreciation for the immense work he had accomplished March 14, 1914. It is fine to load the casket with flowers, but how much finer it is to strew a few along the pathway during lifetime.

PROFESSOR PAUL EHRLICH

The little group of American physicians who spent the morning half-day of July 29, 1913 with Prof. Ehrlich in his laboratory at Frankfurt will carry with them a memory of inestimable value to the individual to the last recollection of things medical. Prof. Ehrlich was at his summer home when he learned that a group of American physicians wished to see him and he made the jour-

ney to Frankfurt to welcome them, not only as a body, but individually, grasping his hand in a warm, genial and interested manner. Not trusting to his ability to speak English, what he said was interpreted by Dr. Kovacs of New York. Dr. Ehrlich passed in review his work on immunization and particularly what proved to be his last work; on the development of the experimental chemotherapy of syphilis and certain other spirochetal infections. Three hundred animals were used daily for this work. These animals were shown us in serial order at different periods of inoculation and in different rooms of his laboratory; after two or three hours of enthusiastic discussion, answering many questions in the most cordial manner, we took our leave. Prof. Ehrlich passed out on the pavement with us and submitted to several kodaks, one, standing in front with our party grouped around him, and which was published in our souvenir volume.

Prof. Ehrlich was a small man, very erect and active, but his gray hair, closely cut beard and thoughtful face indicated a man of near seventy years. We saw him again in London; he was always courteous, grave and distinguished in appearance.

Prof. Paul Ehrlich was born in Strechlen in the Province of Silesia, March 14, 1854, was educated in Breslau, and studied medicine at Breslau, Strassburg, Freiburg and Leipzig; received his degree in medicine in 1878. From 1878 to 1885 he was assistant to Frerichs at Strassburg, 1885 to 1889, assistant in the Medical Clinic of Gerhardt, and in 1889 privatdozent in the medical faculty, Berlin, and was made professor in 1891. In 1899 was made director of the Royal Institute for Experimental Therapy at Frankfurt. When he visited the United States in 1904, received the degree LL. D., University of Chicago and in 1907 the degree of Doctor of Science from the University of Oxford, in 1908 received the Nobel prize for Research in Immunity. He was the recipient also of the Grand Cross of the Orden Civil de Alfonso XII, conferred by the King of Spain. In 1914 he was decorated with the Insignia of the Red Eagle by Emperor William.

March 14, 1914, the sixtieth birthday of Professor Ehrlich was celebrated in Berlin. On March 15, 1914, Professor Behring's sixtieth birthday was also celebrated. Great honor was done to these two discoverers at the same time.

FOURTH ANNUAL REPORT OF THE UNIVERSITY HOSPITAL, IOWA CITY

We are quite sure that the profession is taking an interest in the University Medical School and Hospital never felt before, and that any informa-

tion relating to the institution will be welcome to our readers.

We have before us the Fourth Annual Report of the hospital which gives full information as to its facilities and the work it is doing. The hospital is now equipped with every facility for scientific work, equal to the great hospitals in our large cities. There are 317 beds in wards and private rooms. While the intention primarily is to provide for clinical cases, there are a limited number of private rooms that may be used for private patients under the care of the faculty and may be indirectly used for university teaching. The rates charged are as follows:

In the wards, \$8.00 a week; for patients sent by county authorities, \$6.00 a week.

For private single rooms, from \$16.00 to \$35.00 a week.

For rooms accommodating two persons, \$12.50 to \$16.00 a week for each patient.

The operating fee is \$5.00. This includes operations requiring ether or chloroform anesthesia and major operations under local anesthesia.

For operations requiring gas anesthesia the fee is \$3.00.

Minor operations under local anesthesia \$2.00. Whenever in the judgment of the operating surgeon the operation is too slight for a charge of \$2.00, no charge at all is made.

Schedule of prices for X-ray work:

Treatments for private patients, \$1.00 a treatment.

There is no charge for X-ray or electrical treatments to clinical cases.

We have certain views in relation to hospital rates that do not appear to be generally accepted, at the present time at least. We believe that all patients, clinical or private, are entitled to the best and most complete service within the reach of the practitioner, whether it is laboratory, X-ray, or what not, and that a single charge should be made for the service. If X-ray is considered necessary in the diagnosis, the charge should be made commensurate with the difficulties of diagnosis, as well make an extra charge for the use of the stethoscope or sphygmomanometer. The same objection applies to the extra charge for the operating room. The patient comes to the doctor for diagnosis and treatment and expects the doctor to use the necessary means and to charge a reasonable fee. Nothing disgusts the patient more than the bill for "extras." It makes him think of some foreign hotels. We do not think it right or fair for extra charges directly or indirectly for X-ray or laboratory service needed to mark the progress of the disease.

CANCER AS A PUBLIC HEALTH PROBLEM

Bulletin Number 2. Published by the American Society for the Control of Cancer, 289 Fourth Ave., New York City.

The disease we have most to fear is cancer. The great importance of early diagnosis and early surgical treatment is the only hope we have of escaping a certain and painful death. The public look for a cure at any stage of the disease by the application of some marvelous discovery. The medical practitioner knows—at the present at least—early surgical treatment is the only remedy and that before the diagnosis of malignancy is definitely made. The message to the doctor is to be diligent in advising watchfulness in relation to all conditions that are suspicious or that may become suspicious and to urge such a relation between the family physician and the public that persons having tumor or growths of any kind to bring them to the doctor for advice.

The mortality from cancer in the United States for the last twelve years has increased from 19,381 in 1900 with a population of 30,765,618 to 46,531 in 1912 with a population of 60,427,133, or the total deaths in twelve years in the United States from cancer is 392,604.

In the July 3rd number of the Journal of the American Medical Association is a very able and interesting article by Dr. Joseph Bryant of Boston and Yandell Handerson, Professor of Physiology, Yale Medical School, on the open method and closed method of administering ether. The paper shows that the open method of administering ether is attended with considerable danger. By the open method is meant the drop method with the admission of considerable portion of air, while the closed method is where the mask is so covered and protected, that very little air is admitted and there is more or less rebreathing of the ether and the holding back of carbon dioxide, which is an essential element to the maintenance of steady breathing. It is found that when too much air is mixed with ether, a condition of acapnia is produced, resulting in a pallid skin with coverings drenched in perspiration grown cold from evaporation, and vitality depressed almost to the point of shock, attended with intense nausea and prolonged vomiting with intestinal paresis accompanied by distention with gas. This may last two or three days or more, and may even result fatally. If, instead, the mask is sufficiently covered with towels, to give a result similar to that obtained by the use of a cone made of a towel, such as is often seen in country practice, a much different result is obtained. The acapnia is prevented by rebreathing, which counteracts to a considerable extent the hypernea induced by the ether. This method of administration also protects from the loss of an excessive amount of carbon

dioxid at a time when, as under all anesthetics, its rate of production in the tissues was subnormal. The circulation, the respiration, the intestinal tonus and peristalsis are thus supported by one of the normal and necessary physiologic stimulants. With this conservation of carbon dioxid, and re-breathing, a sufficient amount of fresh air is admitted to the mask to prevent cyanosis or even any degree of purple color in the skin. There is at all times an ample supply of oxygen. This condition is necessary to the maintenance of vitality since anoxemia induces acidosis and a general intoxication. Pale color of the skin is evidence of weakened circulation in the skin due in most cases to acapnia, which must be counteracted by increased re-breathing and the conservation of carbon dioxid, while a purple tint in the skin is a sign of insufficient oxygen and an indication for less rebreathing and more fresh air. According to these authors the sailing order should be "Keep the patient pink."

In referring to the Gatch method of nitrous oxid-oxygen anesthesia, the body's store of carbon dioxid is conserved. The circulation is supported and pallor is extremely rare. Insufficient oxygen is almost the sole danger to guard against.

The conclusion reached by John Bryant is that the closed method is absolutely to be preferred to the open method by observations made in many clinics and by trial and comparison of the two methods before the reason was made obvious by the recent advance in our knowledge of the part which carbon dioxid normally plays in the maintenance of respiration, circulation, and intestinal tonus and motility. The open method is especially employed in the German hospitals while the closed method is seen in France and Denmark, especially in Copenhagen at the clinic of Professor Rovsing. Attention is particularly called to the observation made at the end of a laparotomy under the closed method of ether administration. It is not an uncommon sight to see the intestines active in peristalsis, while in the open method this condition is so rare as to be almost unheard of, while the gas pains is as common a sequel of open methods as it is rare in Prof. Rovsing's clinic by the closed method. There is a prevalent belief that some patients require a much greater amount of anesthetic than others.

Boothby has shown, however, that there is really little or no variation in the anesthesia tension of ether for different individuals, although admitted that a greater amount may be needed to saturate the tissues of a fat person than those of a thin one, and that the difference in the amount of anesthetic used is really the only difference in the method of administration. It is contended that in nervous and excited patients where a large amount of the anesthetic seems necessary, this can be obviated by the administration of a $\frac{1}{4}$ grain morphine and 1/100 grain atropine, and that in reality it is of great advantage as a prophylaxis against hyperpnea and excitement of other functions with subsequent depression, far outweighs in importance all the alleged dis-

advantages of such preliminary medication. These statements, of course, do not apply to chloroform, and so far as ether is concerned, the administration to a morphinized patient may be and should be considerably less than in cases of one without preliminary medication. The authors further state that morphine and atropine should also be administered much more freely during the twenty-four hours following operation than is now generally done.

ACIDOSIS IN CHILDREN

An interesting and suggestive paper on Acidosis in Children appears in the May 20th number of the Boston Medical and Surgical Journal, from the pen of Arthur A. Howard, M. D., Clinical Instructor, Harvard Medical School. We assume from the author's remarks that acidosis is the real cause of many serious intestinal disturbances in children often assigned erroneously. It is quite the custom among many physicians to make a diagnosis of "auto-intoxiation" when the child is taken with vomiting, fever, prostration, stupor, offensive breath. In the last two years Dr. Howard has seen sixty-four cases of acidosis in children, three of these cases proved fatal. After a careful study of the sixty-four cases, Dr. Howard was unable to determine any special influence that was responsible for the error of metabolism which caused the acidosis. In one, ether had been given for an operation. One had a mild attack of pneumonia. The author observed that the disease was about as frequent under two years as over that age. One was a baby four days old, five from five days to a week old. The oldest were ten and twelve years. Vomiting occurred in fifty-one of the sixty-eight patients. Stupor and prostration are marked symptoms, but the diagnostic symptoms are the acetone odor of the breath and acetone in the urine.

The treatment consists essentially of free catharsis and the administration of bicarbonate soda. If the diagnosis is made early and the proper treatment instituted promptly, the prognosis is good.

FUNCTIONAL CAPACITY OF THE KIDNEY

The Lancet for February 20, 1915, reviews a paper by Pezzana on the facility and rapidity of elimination of phenolsulphonephthalein discovered by Professor Ira Ramsen and introduced as an elimination test for the kidneys by Rowntree and Geraghty. It is admitted that the problem of investigating the functional activity of the kidney is a difficult one on account of the uncertainty which still dominates the definition of the renal function which some consider to be under the influence of simple physical or physico-chemical laws, while others contend that it is controlled by laws mysterious and unknown in their essence like those which are attributed to the so-called vital energies. The results of the author's researches in cases of nephritis show that neither in

the acute nor chronic forms does the kidney ever become impermeable to phenolsulphonephthalein, but there is a marked delay in its elimination, and a still more marked diminution in the total amount eliminated. By applying the test in cardiac affections, with and without perfect compensation, an important fact was elicited. In both these classes of cases the elimination was good, although the total quantity was slightly below normal, and whereas in the latter class clinical methods showed renal stasis in a marked degree the test proved that the functional capacity of the kidney was very much greater than in cases of nephritis, even where examination of the urine did not disclose any serious changes. This fact shows the value of the test in those cases where great diagnostic difficulty occurs as to whether renal changes are secondary to stasis, and therefore to the cardiac condition, or whether the latter condition is not on the contrary secondary to the nephritis.

Dr. C. Frothingham of Boston, Massachusetts, in the June, 1915 number of the *American Journal of Medical Sciences*, publishes an interesting paper upon some of the scientific and clinical methods of diagnosis of chronic nephritis. The methods of inquiry are based upon blood pressure examination, 'phthalein elimination and clinical evidence. We have come to realize that the comparatively recent methods of diagnosis of nephritis were not entirely correct, and that furthermore the urinary analysis is very much less important than was formerly supposed, and if the physician today relied entirely or in great measure on the presence of albumen and tube casts in determining the question of nephritis, he would often be in error.

Taking Dr. Frothingham's studies into consideration first in relation to blood pressure of forty cases representing different types of chronic nephritis, thirty-seven showed a systolic blood pressure of 150 or more. In three cases the pressure was normal. It seemed fair from these observations to consider that an elevated blood pressure occurs with sufficient frequency to be of material value in diagnosis, although of but little value in regard to clinical classification of chronic nephritis. Of these forty cases, twenty-six showed a diminished 'phthalein excretion, and fourteen put out a normal amount. Dr. Frothingham from these observations, concludes that in diagnosis in the early stages of chronic nephritis, this test is not reliable. These forty cases were examined as to the excretion of the extra sodium chloride. Of the forty cases only one showed a normal excretion, eight moderate retention of the added salt, and thirty-one were markedly unable to excrete it. It is concluded from these observations that a disturbance in the ability to eliminate the extra salt is a common occurrence in all types of chronic nephritis, and may be considered a good diagnostic sign. While it is apparent that any one of these tests cannot be relied upon as a certain means of diagnosis in chronic nephritis, nevertheless it showed from the study of the

forty cases above referred to, that the several tests used in conjunction, could be relied upon to obtain an early diagnosis in chronic nephritis, particularly the excretion of phenolsulphonephthalein in the urine, and the ability to excrete extra nitrogen, are the most useful tests, particularly in relation to prognosis. Of the forty cases, it is observed that twenty-five showed edema at examination, but it could not be definitely determined in how many of these cases, edema was due to cardiac disturbance. The clinical value of albumen and casts are of comparatively small value. It is well known that some of the most severe cases bordering or uremia show little or no albumen or casts in the urine; that for prognosis these cases are practically of no value. These forty cases taken in connection with the presence of albumen and casts, it was found that in thirty-six cases albumen was present in varying amounts in most of the examinations. Twenty-seven showed casts most of the time. It therefore follows that on account of the presence of albumen and casts in other conditions than chronic nephritis, the occurrence of them in nephritis is not of sure diagnostic value, but is helpful in connection with other tests above referred to.

TRAUMATIC NEUROSES

Mr. Thornburn in his presidential address read before the Neurological Section of the Royal Medical Society, called particular attention to alleged injuries of the spinal cord, formerly designated "spinal concussion" and more recently described as "traumatic neuroses," "traumatic hysteria" or "traumatic neurasthenia." Mr. Thornburn basing his opinion on more than 5,000 cases of alleged traumatic neuroses examined by him and on a great number of back injuries, has not yet been able to trace a single case of locomotor ataxia or disseminated sclerosis to an injury. Continuing the discussion of "traumatic neuroses" Thornburn observes that almost all these cases are connected with claims for financial compensation. The condition is unknown in children, is not seen in the victims of earthquakes, very rare in owners of motor cars, friends or companions, notwithstanding the frequency of these accidents nowadays. It is further observed that those who are drunk or heavily asleep at the time of the accident are little liable to develop traumatic neuroses.

English physicians describe the frequency of traumatic neurasthenia since the introduction of the Workmen's Compensation Act. Prior to 1897 compensation was awarded on the basis of a lump sum and the workman knew what to expect and could devote himself to getting well. Under the weekly payment plan the incentive is different.

The conclusion to be drawn from these observations according to Thornburn is that the various "traumatic neuroses" are psychical conditions best treated by early settlement of claims.

GUN-SHOT INJURIES OF THE HEAD

English surgeons are bringing forward many interesting facts in relation to the surgery of accidents from the experiences of the war, which are well worth noting by surgeons in civil practice. In an address before the London Medical Society published in the *Lancet* for February 20th, Sir Victor Horsley considers a variety of head injuries, and among them the following—Concussion:

Several cases have been reported of fatal concussion without penetration of the skull. These are, of course, perfectly possible because they fall into the same category as the deaths caused by the simple blow of a cricket ball. They are apparently due to direct paralysis of the respiratory and cardiac centres in the bulb. Mr. Walter Spencer and I showed many years ago that mere pressure on the unopen skull, if sufficiently severe on thin parts, could affect the intracranial tension so as to interfere with the functional activities of these centres.

Referring to rise of intracranial pressure, Sir Victor refers to the inhibition of the respiratory center from transmitted shock and hemorrhage which must be quickly relieved or the embarrassed respiratory center fails. Horsley believes that a certain number of deaths in cases of this kind could be saved by immediate operation, and cites a case which came under his observation operated on by Major Sherran at the field dressing station within a very few minutes of the infliction of the wound—trephining and washing out the blood—recovery following.

HOSPITAL SISTERS' CONFERENCE

On June 24, 25, and 26 a conference was held in Milwaukee of Sisters having charge of hospitals. This was an important meeting in that it demonstrated the fact that the Hospital Sisters are alive to the spirit of progress that is moving hospitals all over the country to higher and better work. There are several reasons why the Sisters could not affiliate with the National Hospital Association, but it is believed that their own conference may accomplish all that the secular association can accomplish. The following program will show the activities on this occasion and what is hoped for in the near future.

Thursday, June 24

9 A. M.—Mass and Sermon, Sebastian G. Messner, Archbishop of Milwaukee.

11 A. M.—Address, Dr. John A. Hornsby.

11:30 A. M.—Paper, "Principles of Hospital Construction," Mr. Meyer J. Sturm, Architect.

Recess

2 P. M.—Business meeting, organization and adoption of constitution.

3 P. M.—Paper, "Significance of Hospital Rating," Mr. F. E. Chapman. To open discussion, Dr. John R. McDill.

Friday, June 25

9 A. M.—Paper, "Staff Organization," Dr. R. E. Castelaw. To open discussion, Dr. C. A. Evans and Dr. John M. Beffel.

10 A. M.—Paper, "Hospital Equipment," Dr. Louis M. Warfield. To open discussion, Dr. W. E. Fairfield.

11 A. M.—Exhibits of laboratory equipment and demonstration of some tests, in the Marquette University School of Medicine laboratories. Prof. C. J. Farmer, Dr. W. A. Fansler and Dr. L. M. Miles.

Recess

2 P. M.—Paper, "The Training School," Dr. Joseph L. Baer. To open discussion, Miss Gertrude I. McKee, R. N.

3 P. M.—Symposium, Care of Patients: Paper 1, Dietetics, Miss Ruth Minturn, B. S., County Hospital; Paper 2, Operating Room, Before During and After Operation, Including Anesthesia, Dr. H. O. Collins; Paper 3, Nurses' Treatment of Patient in Private Room and Ward, Miss M. E. Good, R. N. Discussion: Dr. F. J. Gaenslen, Dr. L. A. Fuerstman and Dr. C. Echols.

Saturday, June 26

9 A. M.—Symposium, Educational Function of the Hospital: Paper 1, A Training School for Interns, Dr. L. M. Warfield; Paper 2, The Teaching Function of the Staff, Dr. L. F. Jermain; Paper 3, The Hospital's Duty to Medical Science for the Furtherance of Human Health—by Research, Production of Papers, Library and Museum, Dr. John L. Yates.

11 A. M.—Paper 4, The Hospital and Social Service, Miss Gertrude M. Knowlton, R. N. in Massachusetts. Closing Remarks, Charles B. Moulinier, S. J.

"Some two months ago a preliminary meeting was held of representatives of all the Sisters' Hospitals in Milwaukee, and more than sixty representatives were in attendance, and it is expected that many representatives of the Sisters' Hospitals of the Northwest will attend the June meeting, the representatives to be made up of Sisters in charge of hospitals, the heads of the technical departments, including the training school, the members of the medical staffs of hospitals and the chaplains."

"In addition to the above program, it is planned to create a constitution and set of by-laws for the new association, and to elect officers for the first year."

"The Sisters are going at the work of creating their new association with great enthusiasm; they intend that their hospitals shall be in every way up to the demands of modern medicine in all the scientific departments, and in the care of the sick in every respect."

"It is understood that, just as soon as the Northwestern Sisters' Hospital Association is well launched, and its success assured, the movement will

be broadened by the creation of like associations in other sections of the country, with the eventual intention to have a nation-wide, or continent-wide, association of these institutions."

Every well informed and progressive medical practitioner realizes the importance of greater hospital efficiency and a closer relation between hospital and the profession. Now that the general plan of Medical College standardization has been worked out we may hope the same activities may be extended to hospital efficiency.

In this connection we publish the two first paragraphs of a paper by Dr. R. E. Castelaw of Kansas City, Missouri, read at the Milwaukee Conference, on "Staff Organization."

"Refer me to a hospital that is meeting its full measure of responsibility to the community, that is rendering scientific service to the patient, that is offering an example of thrift, honor and efficiency, and I will show you an institution that is in sympathy with, and that enjoys the full confidence of, its medical staff."

"The staff is the predominating factor in every hospital and its character and policy will largely determine success or failure. The influence of one member who has a low standard of responsibility will outweigh the influence of a dozen high-class men with whom he is associated. Individuals are known by the company they keep; hospitals are measured by the sort of men composing, and the plan of organization of their medical staffs."—(The Modern Hospital.)

NEGLIGENCE OF SURGEON IN LEAVING A SPONGE IN THE ABDOMEN

We have long believed that the rule apparently held to by the Courts that the leaving of a gauze sponge in the abdomen was in itself negligence, was unjust and harsh, and needed modification to place it in line with the rule of negligence in other lines of alleged malpractice. It has always been maintained that a deformity following a fracture was not *prima facie* evidence of negligence and the physician was only required to show that he had exercised reasonable and usual care in treating the fracture. We have been unable to understand why a different rule should apply to sponges; that he should only be required to show that he had exercised reasonable and usual care in guarding against a gauze sponge being left in the abdomen. Nearly every surgeon has at one time or another had this accident occur, even the skilful and the most careful.

It gives us great satisfaction to record a recent decision of the Supreme Court of Oklahoma on this subject.

"I. An assignment of error based on improper remarks and misconduct of an attorney, cannot be maintained, unless the objections are timely made, and an exception is taken to the ruling of the Court if adverse, or to the failure of the Court to interfere,

if the Court remains silent, when such objection is made."

"II. An action against a surgeon for negligently leaving gauze sponges in the body of the patient upon whom he had operated, which resulted in her death; the defendant is entitled to an instruction on his theory of defense, and it is not error for the court to instruct the jury, that though they believe the defendant did leave the sponges in the body of the patient, and her death was the natural and proximate result thereof, yet if they also believe, that in the performance of the operation, he exercised ordinary care in keeping track of the sponges, and seeing to it that they were all removed, before the incision was closed, he could not be held liable for negligence. The gist of such action is not based upon the result of the operation, but upon negligence in its performance, and the rights of the parties, must be tested by whether or not the defendant exercised that degree of care in performing the operation, that is imposed upon him by law."

"The plaintiff contended 'That inherent vice in this instruction is the mistake the court made in assuming and inferring as a matter of fact that the defendant could leave the sponges in the abdominal cavity in the exercise of ordinary care.'"

"The Court says: 'The doctrine advanced in this position of the plaintiff is too exacting for human affairs. It is tantamount to saying that if ordinary care had been used, no mistake could have occurred.'"

"It assumes that the exercise of ordinary care would have rendered a human being infallible. And it is a matter of common knowledge, based on every day experience, that even in the exercise of the utmost care, all men do make mistakes, and it was not error, under the pleadings and evidence in this case, for the Court to instruct the jury, that though they believe the defendant left the sponges in the body of the deceased, and her death was the natural and proximate result thereof, yet if they also believe from the evidence that the defendant, in performing this operation, exercised ordinary care in keeping track of the sponges, and seeing to it that they were all removed before the incision was closed, he could not be held liable for negligence. The basis and gist of this action was not the result of the operation, but negligence in the performance of it. * * * Whether or not the defendant exercised that degree of care in performing the operation, that the law imposed upon him, was the paramount question, and the test of the rights of the parties." * * *

"The second request—by the plaintiff—was to the effect that "if the jury found that the sponges were left in the body by the negligence of the nurse, yet, if the defendant continued to attend on the deceased, it was his duty to have discovered the sponges, and to have removed them."

The Court: "This is in effect the same request as number one. It is not justified by the pleadings, and should have been refused for the same reason."—(Journal of the Oklahoma State Medical Association.)

BOOK REVIEWS

1914 COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINN.

1914 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 814 Pages, 349 Illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$5.50 Net; Half Morocco \$7.00 Net.

Readers of preceding "Collected Papers of the Mayo Clinic" will look forward to something decidedly good in the present volume, and they will not be disappointed. The present "Collection" consists of seventy-two papers by thirty-one contributors, and is a splendid presentation of the thought, methods, and conclusions of the Mayo Clinic, conclusions based on the careful study and tabulation of an enormous clinical material.

Among so many excellent papers it is not an easy matter to select, but that by Balfour on "Goitre" is valuable as a quite exhaustive review and up to date presentation of a subject on which the last word has not been spoken. His conclusions are very decidedly in favor of surgical treatment in the majority of cases, the time and type of operation to be decided by careful study of each individual patient.

The papers by the Mayos, seventeen of them, are such as we have learned to expect from these gentlemen, never too long, very readable, and always with telling points forcibly presented.

A paper of exceptional interest is that by Braasch and Thomas on "Chemical Tests of Renal Function." The author, as the result of a very careful study of a wide range of pathological conditions, concludes that the phenolsulphonephthalein test is probably the most valuable functional test available but "fundamental surgical principles and clinical data should determine whether or not an operation is indicated, and renal functional tests are of value as an aid to differential diagnosis and only to a limited degree as a prognostic aid." Probably no one can speak with more authority on this subject than Doctor Braasch.

The paper by Maud H. Mellish on "Suggestions for Writers of Medical Papers" should be read and reread by every one writing for publication. One wonders whether the paper by Mrs. Mellish is a cause or effect, whether it has been a guide for the papers emanating from Rochester, or whether it is the result of her observation and study as editor of these papers. Whether cause or effect, the paper is bubbling over with helpful suggestions, and Mrs. Mellish is to be complimented on an effort which ought to be productive of much good.

Altogether the present volume is a decided addition to medical literature and as such merits a place in every medical library. Its brief, crisp, instructive, and eminently practical papers will appeal to every medical man at all anxious to keep abreast of the times. The contributors and the publishers are to be congratulated on their work.

DIARRHEAL, INFLAMMATORY, OBSTRUCTIVE AND PARASITIC DISEASES OF THE GASTRO-INTESTINAL TRACT

By Samuel G. Gant, M. D., LL. D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus, at the New York Post-Graduate Medical School and Hospital. Octavo of 604 Pages, 181 Illustrations. W. B. Saunders Company, 1915. Philadelphia and London. Price, Cloth \$6.00 Net. Half Morocco \$7.50 Net.

The fundamental facts upon which the book rests are found in the first chapter under the head of Introduction and Classification in which diarrhea is considered as a symptom, and the questions of treatment rest upon a diagnosis of the cause or condition giving rise to the symptom.

We shall then expect to find a chapter on the Methods of Examination. Following comes a chapter on Diarrhea in certain forms of disease as in certain forms of thyroid gland disease, of pancreas liver, kidney, suprarenal diseases, etc. In each of these forms of symptomatic diarrhea the appropriate treatment is given.

Two chapters are given to diarrheas of acute infections and contagious diseases. Several remedies are recommended, but we assume that the chief reliance is regulation of diet and opium if movements are thought to be too numerous.

A chapter is given to tropical and miscellaneous diarrheas. Two chapters are devoted to sundry causes of diarrhea, chiefly from habits of living. Discriminating study of these forms is important, as it means the success or failure in giving relief. The author calls particular attention to Gastrogenic Diarrhea, a form of trouble distinctly associated with diseases of the stomach, and to Enterogenic Diarrhea, in which the cause lies in intestines. These two types should be kept constantly in mind when directing attention to treatment. Diarrhea from disease and injuries to the nervous system are entitled to consideration. Diarrheas from poisonous food are well known and treatment by clearing the intestinal tract generally accepted. To this chapter is added another on poisonous drugs.

Three chapters are devoted to Non-Specific Intestinal Catarrh. The diarrhea is recognized as the essential symptom of the inflamed or ulcerated intestinal mucus membrane and requires most careful consideration especially as to treatment. To secure satisfactory results, considerable ingenuity and patience is frequently needed. Much detail is given to the methods of treatment which have been found most successful.

Tuberculous and syphilitic enteritis, colitis and enterocolitis have come of late years to be the most serious affections of the intestines. A great mass of evidence has been gathered in relation to these diseases, which has been arranged and presented in convenient form in this book, and the reader may find important facts which will be helpful in adding

to his fund of knowledge on matters which the public is interested in.

A considerable part of this book is given to the consideration of entamebic colitis, bacillary and parasitic colitis. The first two forms of intestinal diseases have only a short history and are but little understood by a considerable proportion of the profession.

In these latter days with the increase in hospital facilities, by patient study and with the aid of the laboratories of real hospitals, an accurate diagnosis may be made and proper treatment applied. It is the purpose of the book under review to present the latest methods of study and the fittest course of treatment. There is but one course—laboratory diagnosis and scientific treatment.

The last section of Gant's work is devoted to intestinal irrigation, formula to be used and surgical means of treating intestinal diseases in which diarrhea is a factor.

ALVEOLODENTAL PYORRHOEA

By Charles C. Bass, M. D., Professor of Experimental Medicine and Foster M. Johns, M. D., Instructor in the Laboratories of Clinical Medicine at the Tulane University Medical College, New Orleans. Octavo Volume of 167 Pages With 42 Illustrations. W. B. Saunders Company. 1915. Price, Cloth \$2.50.

This book is a real contribution to knowledge of a very important subject which is just coming to the attention of the public and to the profession. The public are deeply interested in anything that relates to the teeth and to the mouth and are already talking about pyorrhea and emetin without a very definite idea of what it all means. The public will soon ask the doctor about it and we fear will get very little information, and as far as our observation goes, dentists have given the newer methods but little attention. It is well known as a surgical proposition that a traumatized mucus membrane is readily subject to infection and infection leads to ulceration and pus and that the gums are especially exposed.

The book before us in a concise and direct way points out the part played by the endamebæ in directing the way for certain infectious germs into the alveolar structures in relation to the teeth sockets where minute pus pockets form and lead sooner or later to well defined symptoms of pyorrhea, to changes that may occur in the gums and alveolar processes.

The authors call attention to the traumatisms of misdirected treatment of dentists and the unwise use of tooth brushes, tooth picks, etc. Attention is called to the methods of transmission of the endamebæ from the mouth of one person to another and that while the endamebæ do not cause pyorrhœa directly, pyorrhœa could not develop without the presence of endamebæ.

In relation to the treatment, while ipecac or

emetin destroys the endamebæ, it does not cure advanced pyorrhœa because the disease is due to the action of other micro-organisms which perform their work in the beginning only through the aid of the endamebæ, and in the later stages continue to operate after the endamebæ are killed. Furthermore the disease cannot be cured at any stage while the endamebæ are active.

This is emphatically a book that should be in the hands of every physician and dentist. It is full of the most important practical suggestions as to the etiology, course and treatment of this everyday disease of the gums and teeth. There are also suggestions as to the possible remote effects of pyorrhœa on the infection of the tissues essential to life and health.

EXERCISE IN EDUCATION AND MEDICINE

By R. Tait McKenzie, A. B., M. D., Professor of Physical Education and Director of the Department, University of Pennsylvania. Octavo of 585 Pages With 478 Illustrations. W. B. Saunders Company, Philadelphia and London. Price Cloth \$4.00 Net. Half Morocco \$5.50 Net.

The time is past when any argument is necessary to prove the importance of physical training in college. The only question is now how to provide a systematic course of physical exercise for the average individual and also for the one who through some handicap needs special consideration. It will be admitted at once that physical training must be along physiological lines and in the hands of one, not only trained in physiology and physiologic chemistry, but in general medicine, particularly in physical diagnosis.

The first consideration is heart and lung capacity, nutrition and excretion, and from this standpoint the author develops a proper course of exercise. The German system is first considered; then the Swedish; the French system and physical education by athletics. Then comes physical education for young men and girls, municipal playgrounds and baths, physical education in schools, colleges and universities, physical education of blind and deaf-mutes. Then comes the effects of physical education on the mental and moral defectives.

The second section of the book considers the effect of exercise in medicine and to pathologic conditions, which covers a large field, a field which has so largely been neglected by the regular practitioner and has given so large a scope for exploitation by the various kinds of drugless practitioners sometimes known as osteopaths, chiropractors, etc. This book will be of great service to instructors of physical exercise. It will also be extremely valuable to a class of general practitioners who so often complain of the encroachments of the aforesaid drugless healers.

It is, however, to be feared that the mental influence so often associated with mystery and with strange and unusual manners of cure will be disturb-

ing factors in the full development of rational methods.

THE CLINICS OF JOHN B. MURPHY AT MERCY HOSPITAL, CHICAGO

Volume IV, Number III, June, 1915. Octavo of 196 Pages, 73 Illustrations. W. B. Saunders Company, Published Bi-Monthly. Price Per Year, Paper \$8.00, Cloth \$12.00.

The first sixty pages are devoted to the diagnosis and treatment of bone lesions, which is always so valuable when coming from Dr. Murphy.

A clinic is devoted to the study of intestinal obstruction by large gall-stones. There is also a lecture by Dr. W. J. Mayo, on Unsuccessful Gastro-enterostomy, which will be suggestive to surgeons whose results with this operation have not always been satisfactory. There are several clinics which are suggestive, particularly the one on Painful Exostosis of the Os calcis. These are often troublesome conditions and require a well directed operation for relief. Dr. Murphy has worked out a most desirable operation which is well worth studying out in detail.

THE PREVENTION AND TREATMENT OF INFECTIONS

By Oliver T. Osborn, A. M., M. D., Professor of Therapeutics and formerly Professor of Clinical Medicine, Yale Medical School, Member of the Council on Pharmacy and Chemistry. New Haven, Conn. Published by the Journal of the American Medical Association.

This book is an elaboration of the articles which appeared in the Journal of the A. M. A. under the title "Prevention is Greater Than Cure." Sixteen subjects are presented including the common types of infectious diseases. The book is written in plain language which can be easily understood by educated laymen and might well be placed in the hands of a limited educated public. The general practitioner may find it a useful book for ready reference.

THE INTERVERTEBRAL FORAMINA IN MAN

The Morphology of the Intervertebral Foramina in Man, Including a Description of Their Contents and Adjacent Parts With Special Reference to the Nervous Structures. Supplement to "The Intervertebral Foramen," by Harold Swanberg, Member American Association for the Advancement of Science. From the Anatomical Laboratory Chicago College of Medicine and Surgery. Illustrated by 11 Original Full Page Plates. Chicago Scientific Publishing Co. 221 South Ashland Boulevard, Chicago, 1915. Price, \$1.75.

This monograph is an anatomical study of the intervertebral foramina of man, and consists of text and plates.

Professor Harris E. Santee informs that this book is a contribution to our knowledge of the subject, and as far as we can determine, Prof. Santee has not deceived us.

The text gives us a detailed description of the normal morphology of the intervertebral foramina of man together with their contents and immediate adjacent parts. The advantage of this detailed description lies in the fact that we have a reliable anatomical basis for the study of symptoms referable to the vertebra, especially to those interested in nervous diseases in their relations to mechanical disturbances of the spine.

SEVENTEENTH BIENNIAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF IOWA FOR THE FISCAL YEAR ENDING JUNE 30, 1914

State Printer, Des Moines, 1915

The first section of the report is mainly a strong plea on the part of the secretary for a deeper interest on the part of the general public in the efficiency of health board work in the state. There can be no question as to the fact that the State Board of Health has done an immense amount of work, considering the facilities offered. There is one fundamental defect in the report of the board and one that makes it of comparatively little value. The grave defect is not the fault of the board, but of the legislature which persistently refuses to provide for a bureau of vital statistics. How are we able to determine the prevalence of disease or, in fact, to know about births and causes of death? What can we do in tracing out definitely contagious and infectious diseases? How can we adequately conserve public health unless we have the fundamental data on which these inquiries rest?

We have learned in one way or another something about hygiene, but as to public health in Iowa, as a state, we know almost nothing definitely, for instance, quarantinable diseases, first half year 1914 by counties—fourteen counties no report, second half year 1914—two counties no report; of the 22,473 deaths for 1913—913 registered **Unknown**. It may be admitted that the report forms a fair basis for a guess, but not for scientific purposes.

There are many interesting facts in relation to the vital statistics of cities; we find that acute nephritis and Brights disease are classified under one head, appendicitis and typhalitis, hernia and intestinal obstructions, etc., etc.

One interesting fact will be found in examining these tables—if they can be regarded as fairly correct—cancer and other malignant diseases (what other malignant disease?) about equal tuberculosis in all its forms, gives nearly the same number of deaths.

Burlington, 1913, cancer, 16; tuberculosis, 22.
Cedar Rapids, 1913, cancer, 33; tuberculosis, 38.
Clinton, 1913, cancer, 16; tuberculosis, 20.
(In 1912, cancer, 21; tuberculosis, 18.)

Council Bluffs, cancer, 37; tuberculosis, 35.

Davenport, cancer, 38; tuberculosis, 68.

Des Moines, cancer, 103; tuberculosis, 94.

Dubuque, cancer, 26; tuberculosis, 42.

The other cities give about the same proportions.

All through this report is an apparent struggle on the part of the board with incomplete and questionable data.

COMING MEETINGS

American Association for Study and Prevention of Infant Mortality Sixth Annual Meeting Philadelphia, Nov. 10, 12, 1915.

The first Central States Conference on Social Hygiene, Congress Hotel, Chicago, October 25-26, 1915.

The eleventh annual meeting of the Second District Medical Society will be held in Davenport October 19th. The following program will be rendered:

The Advisability of Surgical Interference in Meningitis—Elmer P. Weih, Clinton.

Typhoid Carriers—Jessie B. Hudson, Davenport.

A Rational Basis for Infant Feeding—Albert H. Beifeld, Iowa City.

Differential Diagnosis Between Biliary Tract Infections and Gastric and Duodenal Ulcers—Charles L. Mix, Chicago.

Operative Treatment of Recent Fractures—Charles Davison, Chicago.

Pulse Pressure as a Measure of Circulatory Efficiency—Walter L. Biering, Des Moines.

X-ray Diagnosis of Pulmonary Lesions (with lantern slides)—Edward S. Blaine, Chicago.

Visceroptosis—John L. Klein, Muscatine.

Officers

President—C. P. Howard, Iowa City.

First Vice-President—Wm. H. Rendleman, Davenport.

Second Vice-President—J. S. Dean, Wheatland.

Secretary and Treasurer—J. V. Littig, Davenport.

There is no formality in obtaining membership in this Society—every member of the Iowa (or other) State Medical Society is a member if he but considers himself one. The profession is most cordially invited. Program will begin at 10 A. M. and continue through the day with an intermission for lunch. Invitations have been sent to all physicians in Iowa and Illinois within a radius of seventy-five miles of Davenport.

The bottom of the program bears the slogan "1000—Iowa State Medical Society, Davenport, May 10, 11, 12, 1916—1000."

SOCIETY PROCEEDINGS

The Appanoose County Medical Society met September 29th at the Society Assembly Room of the Drake Free Public Library, Centerville. The general subject for this meeting was syphilis and the

discussion following the papers was limited to personal experiences. The program was:

Bacteriology and Laboratory Diagnosis—B. F. Sturdivant, Centerville.

Clinical Diagnosis of Primary Syphilitic Lesions—C. S. Hickman, Centerville.

Clinical Diagnosis of Secondary Syphilitic Lesions—E. T. Printz, Moulton.

Clinical Diagnosis of Tertiary Syphilitic Lesions—E. E. Bamford, Centerville.

Treatment of Syphilis—C. P. Bowen, Centerville.

The Kossuth County Medical Society met with the Humboldt County Medical Society at LuVerne, Tuesday, September 14th at 2:00 P. M. The program was:

Some Medical Misconceptions—Walter Fraser, Algona.

Pyloric Spasm—Eli Grimes, Des Moines.

Paper—Humboldt County Society.

The members of the Carroll County Medical Society and the Sac County Medical Society met at Breda September 14th in honor of Dr. Uriah C. Jones of that place. Dr. Jones has practiced in that vicinity for thirty-five years and the meeting at Breda was a testimony to the service rendered the community and the esteem which Dr. Jones holds among his fellow practitioners.

The Wapello County Medical Society opened the 1915-1916 course on the evening of September 7th with an attendance of twenty members, practically all of whom took part in the discussion of the papers of the evening, which treated of Acute Nephritis; the Etiology, Pathology and Diagnosis being presented by Dr. H. A. Spilman and the treatment by Dr. M. Bannister.

The relation to infection was particularly discussed from the standpoint of etiology, toxins and bacteria, both being blamed. A connection between the functions of the skin and those of the kidneys was brought out by the speakers, as was the indications for "sparing the kidneys" when diseased.

Dr. C. A. Aldrich of Evanston, Ill., who was a guest at the meeting, gave an interesting report of a case of focal infection in the antrum of Highmore producing a nephritis.

At this session Dr. E. T. Edgerly was elected editor for the year. A critic will be appointed for every meeting.

At the second September meeting held September 21st, the discussion of Nephritis was continued, the subjects being Chronic Parenchymatous and Chronic Interstitial Nephritis.

The interest the members are taking in the work outlined for this year was manifested by another good attendance and the discussion which followed the reading of the papers.

Dr. Newell gave an exhaustive paper on the Chronic Parenchymatous form—going into the etiology, pathology symptomology and treatment; speaking of the toxins-nephro-lysins, etc., which

have been credited as causes of the changes in the kidneys.

Dr. E. A. Sheafe in his paper on Chronic Interstitial Nephritis reminded us that in the primary chronic interstitial form of nephritis the fibrous tissue is formed without a previous parenchymatous inflammation and that usually all the kidney is not attacked at once—so that the destruction of the secreting structure is slow, thus explaining the long time patients may live with this disease; this fact also explains the small amounts of albumen and casts found.

The fact that the contracted kidney is rare in the young, but frequent in middle and advanced life was brought out and that it is usually associated with cardio-vascular changes of the sclerotic type, so that we are dealing with a general condition, not a renal lesion only. This made it clear, that those physicians err who treat all kidney inflammations the same as they do the acute types. As the cirrhotic type is consistent with many years of useful living, it is clear that we must not restrict the diet too rigidly, and while avoiding over eating and irritating substances, we must keep up general nutrition and keep close watch on the competency of the heart. The patient must be told it is possible for him to live many years under careful guidance and not to study his urinary symptoms too closely. As he should spare his kidneys and heart, the injudicious use of mineral waters may be harmful, filling the vessels too full and taxing both heart and kidneys.

In the discussion, our ignorance of the actual processes going on in nephritis and the causes of uraemia and other symptoms was deplored.

At the meeting of the Muscatine County Medical Society held October 6th at Hotel Muscatine, some of the most noted surgeons of America were present. The program presented was

The Poor Surgical Risk—Wm. J. Mayo, Rochester.

The Relation of the Laboratory to the General Practitioner—Victor C. Vaughan, Dean of the Medical School of the University of Michigan, Ann Arbor.

Municipal Sanitation—Richard H. Harte, Senior Surgeon, Philadelphia Hospital.

Indications for Operation in Exophthalmic Goiter—Donal C. Balfour, Mayo Clinic and Associate Professor of Surgery, University of Minnesota.

The Bremer County Medical Society met at Waverly September 22nd. The meeting was held in the lecture room of Mercy Hospital. Papers were read by Dr. J. C. Rockafellow of Des Moines and Dr. W. A. Rohlf of Waverly. Following the program a clinic was held at the hospital.

The September meeting of the Scott County Medical Society was held at the Commercial Club, Davenport, September 7th, Carl Schlegel, Davenport druggist, addressing the physicians on the subject, "The Druggist and the Doctor." "The druggist is

the doctor's servant and you physicians had better treat him well for you know it's extremely difficult to keep help these days," he said. He told of the high price of absorbent cotton when he first went into business and stated that it was handled by but one firm in the United States at that time.

He also told of the change in the custom of the present drug store trade over that of several years ago when the physician dispensed his own prescriptions to a large extent while now practically every physician leaves this part of his business to the pharmacist.

As an endorsement of the recent attitude of the Davenport board of education on vaccination, the following resolutions were adopted:

Our board of education has recently made a ruling in regard to vaccination of school children which has met with opposition on the part of certain individuals, and whereas,

"Vaccination as a preventive of small-pox has long been known to be effective, and when properly done to be without the element of danger certain individuals attribute to it, and whereas,

"The uniform absence of untoward results has been amply evidenced in our own community by over 600 resident vaccinations in the Orphans' Home, over 100 in St. Vincent's Orphanage, and many thousand among the children of Davenport, and whereas,

"Vaccination not only safeguards individuals but will effect a large saving of money in this community, be it resolved,

"That the Scott County Medical Society hereby commends the board of education for its firm and enlightened stand in this matter, and commends Dr. Middleton, city physician, and Dr. Schroeder, supervisor of the department of child welfare, for the earnest efforts they are making in public health work."

At this meeting Dr. Sidney G. Hands, of Davenport, was elected treasurer of the society to succeed Dr. T. W. Kemmerer who resigned upon his appointment to the pathological department at the University of California Medical Department, Los Angeles, Cal.

Drs. L. W. Littig and W. L. Allen were elected as the local members of the committee on arrangements for the 1916 meeting of the Iowa State Medical Society, at Davenport.

The Clinton County Medical Society met at Lafayette Hotel, Clinton, September 24th with twenty members present. Following the 6 o'clock dinner, Dr. W. L. Allen of Davenport gave a paper on Obstetrics and the use of Forceps and Dr. H. A. White of Clinton read a paper on Treatment of Fractures Involving the Elbow Joint.

The Webster County Medical Society met at Fort Dodge September 28th, Dr. L. M. Martin, of Fort Dodge addressed the meeting on Infection of the Accessory Sinuses. This society meets every Tuesday night.

THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY

The annual meeting of the Medical Society of the Missouri Valley was held in Des Moines September 23rd and 24th, and was a great success both in attendance and in the character of the papers presented, as well as the generous discussion following the presentation of each.

This society covers a broad area, and was represented by the leaders of the various sections in both medicine and surgery. The invited guests, Drs. Geo. W. Crile of Cleveland, Chas. Lyman Greene of St. Paul, and Samuel Robinson of Rochester, Minn., were an inspiration to the occasion.

Unusual credit is due President, Dr. Granville N. Ryan, and Secretary Dr. Chas. Wood Fassett, as well as Dr. F. E. V. Shore, President of the Polk County Medical Society and his committee on arrangements, consisting of Drs. R. A. Weston, Thos. F. Duhigg, Charles Ryan, Arthur Steindler and Chas. F. Howland.

The arrangements were complete and the program was carried through and finished at the end of the second day.

The complimentary luncheon given by the Chamber of Commerce to the members and their wives was a most enjoyable affair, and was attended by two hundred. President B. F. Williams of the Chamber of Commerce introduced President Ryan as toastmaster. Responses were made by Drs. Chas. Lyman Greene of St. Paul, O. H. Brown of St. Louis, T. F. Duhigg of Des Moines, and J. P. Lord of Omaha.

The ladies' entertainment committee, consisting of Mrs. F. E. V. Shore, Mrs. Granville N. Ryan, and Mrs. John W. Martin, entertained the ladies in attendance royally—the theatre party, the auto ride, and Style Show occupying most of the time.

The banquet at the Savery Thursday night, at which the members of the Polk County Medical Society acted as host, was a delightful affair attended by the guests and a large number of members and their wives.

The President, Dr. Granville N. Ryan, selected as the subject of his annual address *An Inventory of the Capital Stock of the General Practitioner*.

Dr. Chas. Lyman Greene of St. Paul had for the subject of his oration, "Drop Heart." His preliminary remarks on neurasthenia were most timely, and thoroughly appreciated. That there is "no such thing as neurasthenia, and that it is a bastard syndrome," was Dr. Greene's emphatic statement in regard to this pet phrase that has been so carefully nursed for so many years; but in the light of modern science these false conceptions are fast disappearing, and organic conditions have been found to be at the bottom of this phrase, which has served as a cloak for diagnostic inadequacy.

He said drop heart patients may lead long and useful lives, but they are peculiarly subject to cardiac complications, due to failure to recognize the help-

fulness and the possibilities of timely treatment of that much abused organ.

Dr. Samuel Robinson of Rochester, Minn., followed with an excellent address upon "Chronic Emphysema," which gave the last word upon chest surgery, and illustrated the work he is doing by a series of excellent slides. He said this was a field that had been sadly neglected and cited a number of cases he had operated that had been diagnosed as tubercular and been confined in sanatoriums for as long as eighteen months, where the condition cleared up very rapidly after operation.

Dr. George W. Crile's visit to Des Moines as one of the honored guests of the Medical Society of the Missouri Valley was both pleasant and profitable to all in attendance. Dr. Crile always carries a message to the profession that is worth while. For many years he has enjoyed the distinction of being the world's greatest exponent of physiological surgery.

The subject of Dr. Crile's paper was: "A Method of Differentiating Cancer of the Pylorus and Increasing the Safety of Gastric Operations." It is needless to say that this subject was discussed in such a way as to again exemplify how very original Dr. Crile is. After he had finished this subject, he showed by request a large number of lantern slides of the European War which demonstrated what is being done in the great field hospitals as well as the hospitals in Paris. Dr. Crile was in charge of the American Hospital in Paris for two months and his pictures proved most interesting to all present.

MARRIAGES

Dr. Lewis E. Haecker, of Hampton, to Mrs. Ada Perrin-Johnson of Rockford, Ill., at Rockford, August 31st.

Dr. Emery E. Magee, of Waterloo, to Miss Fay Vaughn, Bangor, Wis., at Bangor, September 15th.

Dr. Matt B. Weir, to Miss Pearl Parker, both of Grant, at Red Oak, September 14th.

Dr. Roscoe E. Cook, to Miss Floy B. Sloan, both of Des Moines, at Boone, September 16th.

Dr. Matthew L. Turner, to Miss Loretta E. Brown, both of Des Moines, October 2nd.

Dr. Lawrence E. Kelley, of Des Moines, to Miss Sue Gunn, of Kellogg, at Des Moines, October 2nd.

Dr. Russell C. Doolittle, of Des Moines, to Miss Myrtle Cordner, of Chicago, at Chicago, October 2nd.

BIRTHS

Dr. and Mrs. B. L. Eiker, of Leon, a son September 5th.

Dr. and Mrs. M. O. Brush, of Shenandoah, a daughter, September 20th.

Dr. and Mrs. G. G. Bickley, of Waterloo, a daughter, September 18th.

Dr. and Mrs. C. B. Hickenlooper, Winterset, a daughter, September 22nd.

DEATHS

Philander Noffsinger Hardman, M. D., College Physicians and Surgeons, Keokuk, 1876; a veteran of the Civil War having served in the Eighty-fifth Ohio Volunteer Infantry and re-enlisting in the One Hundred and Forty-second Ohio Volunteer Infantry; a practitioner at South English for several years and later at Sigourney, died at his home in Sigourney September 6th, aged seventy-four.

Robert H. Hews, M. D., University of Buffalo Medical Department, 1874; pension examiner under President Cleveland, surgeon for the Illinois Central and Chicago Milwaukee and St. Paul Railway Companies; a practitioner at Rockwell City since 1889, died at Long Beach, California, September 13th, aged seventy. Interment was at Long Beach and the pall bearers were all former Calhoun County people who are now residents at Long Beach. Dr. Hews is survived by his wife, one daughter, Miss Janette Hews and one son, Dr. Lewis Hews of Rockwell City.

C. I. Eberle, M. D., University of Michigan Department of Medicine and Surgery, 1879, Ophthalmic College of Chicago, 1892; for several years a practicing physician at Webster City and recently at Blairsburg, died suddenly at Mercy Hospital, Webster City from arterio-sclerosis, September 19th, aged sixty-three.

Alfred O. Pitcher, M. D., Homeopathic Medical College of Pennsylvania, 1867; a practitioner at Mount Pleasant for forty-four years, died at his home in Mount Pleasant from injuries received four years ago, aged seventy-two.

Arthur William Parker, M. D., College of Physicians and Surgeons, Keokuk, 1881; a practitioner for thirty-four years in Page County, died at his country home near Shenandoah from carcinoma of the stomach and liver, September 6th, aged sixty.

CHANGE OF LOCATION

Dr. J. B. Owen, of Richmond, Ind., has located at Central City.

Dr. W. W. Daut, of Muscatine, who recently graduated from the State University of Iowa College of Medicine, is associated with Dr. E. K. Tyler at Muscatine.

Dr. F. J. Drake, formerly of Webster City, who for the past four years has been living at Galesburg, Ill., has returned to Webster City to permanently locate.

Dr. E. G. Leffler, Iowa Falls, has removed to Waterloo.

Dr. J. C. Garard, of Hazelton, has sold his practice to Dr. J. T. Grayston, from Cook County Hospital.

Dr. E. B. Haden, of Perry, has removed to Dana.

Dr. T. W. Bennett, who for thirty-four years has been a practitioner at Lenox, has removed to Long Beach, California.

Dr. E. L. Wurtzer, of Germania, has sold his practice to Dr. H. J. Henderson, of Ledyard.

Dr. R. W. Woods, of Kellogg, has sold his practice to Dr. John T. Hanna, of Winfield. Dr. Woods will take post graduate work at the University of Minnesota Medical School this year.

Dr. D. A. Jay, a practitioner for the past twenty-five years at Eldon, has sold his practice to Dr. J. C. Moore, of Clio. Dr. Jay will locate at LeMars.

MEDICAL NEWS

Dr. L. A. Packard, of Newton, has recently recovered from a mild attack of diphtheria.

Dr. A. L. Belt, of Ft. Dodge, has returned from Chicago, after a month's study at Dr. Murphy's Clinic.

Dr. M. T. Brewer, of DeSota, is suffering from a fracture of the wrist, the result of an automobile accident.

Dr. Don L. Bare, of Whiting, is recovering from an operation for appendicitis at Mercy Hospital, Des Moines.

Dr. Cyrus Fisher, of Cedar Rapids, recently suffered a fracture of his right arm while cranking his automobile.

Dr. George A. Carson, of Mount Vernon, has been suffering from a foot infection caused by stepping on a rusty nail.

Dr. G. A. Spaulding of Avoca recently underwent an operation at the Jennie Edmundson Hospital, Council Bluffs, for appendicitis.

Dr. W. C. McGrath, of Eagle Grove, has returned from Boston where he took a six weeks course at the Massachusetts General Hospital.

Dr. Fred W. Sallander, of Fort Madison and Dr. Sidner D. Maiden, of Iowa City, left last month for London for a year's work in hospital service there.

Dr. Martha Welpton, of Des Moines, has gone to Chicago where she will spend a year specializing in surgery at the private hospital of Drs. Carl and Emil Beck.

Dr. F. S. Bonnell, formerly of Ottumwa, has completed a two months' course at Dr. Sluder's Clinic, Washington University, St. Louis, and is now located at Fairfield.

The malpractice suit against Dr. D. S. Fairchild, Jr., of Clinton, brought by Joseph Knox, of Morrison, Ill., for \$30,000 for the alleged wrongful leaving of a sponge in his body after an operation on his kidney has been dismissed at the plaintiff's cost.

Dr. Fred Moore, of Glidden, after a year of post graduate work in Baltimore, has located in Des Moines where he will confine his practice to pediatrics. Dr. Moore has been elected Health Supervisor of the public schools of Des Moines—a newly created office.

Dr. D. S. Fairchild, Jr., of Clinton, attended the National Convention of Military Surgeons at Washington, D. C. Dr. Fairchild, Jr., was appointed by

Governor Clarke to represent this state. Drs. Wilbur Conkling and Thos. F. Duhigg, of Des Moines, were also in attendance.

The State Board of Education at a recent meeting elected Dr. M. F. Boyd, formerly of Oskaloosa, state epidemiologist, vice, Dr. C. S. Woods, resigned. It is understood that with the election of Dr. Boyd, the controversy over water analyses with the State Board of Health will end and this work in the future will be done at the State University as it always should have been done.

Governor Clarke appointed as delegates to attend the Mississippi Valley Conference on Tuberculosis at Indianapolis, September 29th, 30th and October 1st, the following physicians and philanthropic workers: Dr. Hugh Tamisiea, Missouri Valley; Dr. Samuel Bailey, Mount Ayr; Dr. H. V. Scarborough, Oakdale; Dr. Frank Fuller, Keokuk; Dr. E. J. Wehman, Burlington; Dr. F. H. Little, Muscatine; Dr. George Minges, Dubuque; Dr. J. W. Kime, Fort Dodge; Dr. H. R. Sugg, Clinton; Dr. J. M. Barstow, Council Bluffs; Dr. Clara L. Crane, Davenport; Dr. W. W. Williams, Oskaloosa; Dr. John H. Peck, Miss Ada Hershey and H. S. Hollingsworth, Des Moines.

Dr. and Mrs. Wilton McCarthy, of Des Moines, and Dr. Claence A. Alpin, of Ames, had a narrow escape when the automobile in which they were returning from Shipley skidded on account of the slippery road and plunged over a ten foot embankment on the Lincoln highway east of Ames, September 11th. Mrs. McCarthy received serious bruises, Dr. McCarthy sustained a fractured thigh, and Dr. Aplin suffered four fractured ribs and serious internal injuries and bruises. Dr. Aplin is slowly recovering. Owing to the inability to hold the fragments in apposition, it was necessary to apply a Lane's plate to Dr. McCarthy's thigh. This operation was performed by Dr. J. Ridlon, of Chicago, Dr. Van Buren Knott, of Sioux City, and Dr. J. C. Rockafellow, of Des Moines.

The following resolutions adopted at the recent meeting of the Medical Society of the Missouri Valley at Des Moines make interesting reading:

"Whereas, it is a common custom among newspapers and publications in this locality to accept questionable advertisements of patent medicines and quack doctors, and

"Whereas, this is greatly to the detriment of the general public who often suffer physical disaster as well as financial loss by patronizing the unscrupulous promoters of quack remedies and,

"Whereas, the victims of these designing persons look to the daily press as a reliable source of information.

"Be it resolved that the Medical Society of the Missouri Valley, in regular session, at Des Moines, Iowa, does hereby warmly commend the action at the Des Moines Daily Capital in refusing to accept this form of advertisements, and heartily endorse it for making this sacrifice in the interests of the community which it serves.

Be it further resolved that the Medical Society of the Missouri Valley hereby authorizes and directs its secretary to spread a copy of this resolution on the minutes of the society, and that a copy be given to the Des Moines Daily Capital."

HOSPITAL NOTES

The stockholders of the Mineral Springs Hospital and Sanitarium Association of Marengo, have completed their organization with a capital stock of \$16,000 and contract will soon be let for the erection of a \$20,000 building. The Association expects to utilize in a medicinal way the mineral water found at Marengo, as well as having a modern hospital for the care of medical, surgical and obstetrical cases. The officers are: President, Dr. E. N. Brown; vice-president, Dr. E. B. Henderson, and secretary-treasurer, Dr. I. N. Crow.

The Iowa Congregational Hospital at Des Moines, will be completed January 1, 1916. This hospital will cost approximately \$55,000.

An unusual feature in connection with the graduation of the first class of nurses from the Jefferson County Hospital, at Fairfield, was the address to the nurses delivered by Dr. W. A. Jones of Cantril, who had but recently undergone an abdominal operation at the hospital. The doctor's bed was wheeled into the solarium where he delivered his address. Dr. Jones has practiced his profession in Jefferson and Van Buren Counties for fifty years.

It is with regret that we announce that the voters of Delaware County at a special election held in September defeated the special tax levy for the building of a County Hospital at Manchester. Experience is proving that a county hospital serves a worthy purpose and in the end is a profitable investment. What is a little additional individual tax payment compared to the benefits which would accrue to the afflicted poor and others.

The citizens of Cherokee and vicinity were united in their efforts to raise \$50,000 for the new hospital to be erected at that place. An illuminated thermometer 6x30 feet showed the daily progress of the solicitors.

The Lutheran Hospital at Hampton just completed at a cost of \$50,000, was formally dedicated September 12th. Rev. Ph. Wambgans, president of the Lutheran Hospital of Ft. Wayne, Ind., delivered the principal address. Rev. H. H. Hartman, Superintendent of the Lutheran Orphans' Home at Ft. Dodge, also assisted in the dedicatory services. This hospital, fire proof and modern in every respect with a capacity for seventy-five patients, is a credit to the citizens of Hampton and Franklin County. The officers of the Hospital Association are: Rev. Otto von Gemminger, president; Rev. E. Hempel, Bradford, vice-president; Rev. H. A. Maas, Hubbard, secretary; E. Dohrmann, Hampton, treasurer. Miss L. Linderman, of St. Louis, is the superintendent.

DR. JAMES TAGGART PRIESTLEY, DEAN OF IOWA PHYSICIANS

The records of the Iowa State Board of Medical Examiners show the registration in regular order to be Dr. William S. Robertson, Muscatine, No. 1; Dr. Wilmot H. Dickinson, Des Moines, No. 2; Dr. Phillip W. Lewellen, Clarinda, No. 3; Dr. Henry H. Clark, McGregor, No. 4; Dr. Ephriam M. Reynolds, Centerville, No. 5; Dr. S. B. Olney, Ft. Dodge, No. 6; Dr. J. D. Miller, Ida Grove, No. 7; Dr. Josiah F. Kennedy, Des Moines, No. 8; Dr. James T. Priestley, Des Moines, No. 9.

All of these physicians except Dr. Priestley have gone to their final reward, thus making Dr. Priestley the Dean of the medical profession of the State of Iowa, and the man next to Dr. Priestley is Dr. Gershom H. Hill, who holds certificate No. 10.

HONOR FOR SURGEON-GENERAL RUPERT BLUE, PRESIDENT-ELECT AMERICAN MEDICAL ASSOCIATION

The trustees of the American Medicine Gold Medal Award have announced that the medal for nineteen hundred and fifteen has been conferred upon Doctor Rupert Blue, Surgeon-General, United States Public Health Service as the American physician who in their judgment has performed the most conspicuous and noteworthy service in the domain of medicine and surgery during the past year. Dr. Blue is thus the recipient of an honor justly due one who has performed such valuable service in respect to public health and preventive medicine. Dating back to 1892, when he entered the United States Public Health Service as interne, later to become assistant surgeon-general and then surgeon-general, Dr. Blue's career has been one of remarkable achievement in scientific research.

MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS

The third Mississippi Valley Conference on Tuberculosis met at Indianapolis, September 29 and 30 and October 1, 1915. There was a registration of over 700 and a great deal of interest was manifested. Iowa was very well represented, there being eighteen present from this state, including nine delegates appointed by the governor.

The strictly medical phases of tuberculosis were given relatively little attention, due to the fact that the conference was made up largely of social service workers, sanatorium representatives, club women, etc. However, Doctor Lanza of the United States Public Health Service discussed "The Early Diagnosis of Tuberculosis," emphasizing detailed histories, more careful examinations, repeated observations, judicious use of tuberculin and a careful summary of all the facts obtained.

The medical clinic held at the Indiana Medical College was featured by a talk and demonstration on "X-ray and Tuberculosis," by Dr. Kennon Dun-

ham of Cincinnati. He believes the X-ray is very useful in the diagnosis of tuberculosis, although not needed in 80 per cent of cases. The stereoscopic pictures must be critically studied. The value of the X-ray as a therapeutic measure is indefinite and he states that harm is often done. In glandular cases, the fibrous tissue may be slowly increased about the glands, but this work is as yet experimental.

Doctors Ritter, Willitt, and McGehee each presented an incipient case of tuberculosis in children. An interesting sidelight was the inability of the Indianapolis Free Tuberculosis Clinic to furnish an incipient adult patient. One physician remarked that incipient tuberculosis is rare; they do not come to us, they go to the "stomach specialist." Another felt that the other members of a family, in which tuberculosis was found, should be more frequently examined, and urged the equal importance of periodic examination for a human being, as for an automobile.

Doctor McGehee urged that definite action be taken on a symposium of early symptoms, which should be given wide publicity, and suggested the following list:

- (1) History, including environment, possibility of infection and personal history.
- (2) Loss of weight.
- (3) Loss of strength.
- (4) Poor appetite, especially for breakfast.
- (5) Anemia.
- (6) Daily temperature variation of one or two degrees.
- (7) Slight, dry cough.
- (8) Rapid pulse.

The conference decided to meet next year in Louisville, and elected Walter D. Thurber of Indianapolis its president.

THE IOWA ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

At the 1914 session of the Iowa State Medical Society, a committee was authorized to investigate the advisability of forming a society for the study and prevention of tuberculosis. This committee reported to the 1915 session of the House of Delegates that in its opinion the most effective way to educate the people of the state concerning this disease is by the formation of an antituberculous association which shall have its own independent organization but must have the support and approval of the Iowa State Medical Society; and recommended that a committee be appointed by the President of the Iowa State Medical Society to co-operate with the various philanthropic and charitable organizations of the state for the purpose of forming such an association. Dr. W. B. Small, President of the Iowa State Medical Society appointed as members of this committee Dr. J. E. Luckey, of Vinton, chairman; Dr. H. V. Scarborough, Oakdale; Dr. John H. Peck, Des Moines; Dr. Frank M. Fuller, Keokuk, and Dr. Murdock Bannister, Ottumwa. Pursuant to these

recommendations, Dr. J. E. Luckey, chairman of this committee, called a meeting in Des Moines, October 4th for the organization of such an association. This meeting was attended by about fifty men and women, doctors and laymen, who are interested in philanthropic work, and the organization of the Iowa Association for the Prevention of Tuberculosis was effected. The association announces as its objects:

"Dissemination of knowledge concerning treatment and prevention of tuberculosis.

"Investigation of the prevalence of tuberculosis in the state and collecting and publishing of useful information.

"Procuring the proper legislation for relief and prevention of tuberculosis.

"Co-operation with public authorities, state and city boards of health, state board of control, the National Association for Prevention of Tuberculosis, medical societies, visiting nurses' associations and other organizations in securing adoption of measures for prevention of tuberculosis.

"Encouragement of adequate provision for consumptives by the establishment of sanatoria, dispensaries and other institutions.

Promotion of the organization and work of such local societies as may be needed."

The officers elected are: Dr. W. W. Pearson, Des Moines, president; Gov. George W. Clarke, and Dr. W. L. Bierring of Des Moines and Mrs. Charles Saunders of Council Bluffs, vice-presidents; Dr. John H. Peck, Des Moines, secretary; C. H. Stephenson, Des Moines, treasurer and Dr. H. V. Scarborough, Oakdale, assistant secretary-treasurer.

The state board of health has become interested in this subject and has adopted a resolution pledging its co-operation with the Iowa Association for the Prevention of Tuberculosis. This is a great step in advance as the state board of health has not hitherto been active in the antituberculosis work. Dr. Walter L. Bierring of Des Moines and Drs. Henry Albert and M. S. Boyd of Iowa City have been appointed a committee by the board to gather information on the tuberculosis situation in Iowa.

THE MAKING OF ARTIFICIAL HUMAN EYES.

The making of artificial eyes to order is an item of great importance to those who are unfortunate enough to lose one eye, as it is possible in most cases to give a perfect match and even duplicate the movements of the good eye.

This work will be done in Des Moines, October 30th by Mr. Max Kohler who is being brought here by the Merry Optical Company.

It is interesting to know that artificial eyes are blown glass, with the different tints and shades of color delicately blown in while the eye is being made. Mr. Kohler is an expert glass-blower, and an artistic worker with colors. The combining of these two accomplishments enables Mr. Kohler to make eyes that cannot be detected from the real optics. Usually thirty minutes' time is consumed

in blowing a glass eye. The artist seats the person for whom an eye is to be made across from him at his table. After examining the person's natural eye, observing the coloring and characteristics and noting the form of the cavity of the destroyed optic, he sets to blowing the glass, all the time blending the different colors from different sticks of colored glass. The entire operation is done in and near the flame of a common gas jet.

"The color doesn't matter, I can make a green-cattish eye as easily as a heavenly blue one," said Mr. Kohler, in discussing his work. "All I need is to see the color of the natural eye, and in thirty minutes I will have a duplicate. It is not so difficult a task as it seems to the uninitiated. It requires more or less skill in the blowing of the glass and the blending of the colors; the rest is in the power of observation and a little practice."

"WHO PAYS FOR THIS JOURNAL?"

(Adapted from *Colorado Medicine*, September, 1915)

"Who pays the cost of printing and publishing the *Journal of the Iowa State Medical Society*?" On seeing this question the reader, if a member of the State Medical Society, will be pretty sure to answer, "Why, I do, of course." It is true that this *Journal* is supported in the first place out of a per capita fund set aside each year from the members' dues; but the amount thus appropriated falls materially short of paying the gross expenses of maintaining this *Journal*. The one who co-operates with the members of the Society in providing the necessary sum is the advertiser. It is, therefore right that every member of the State Society should be constantly and definitely conscious of the benefit which he derives from the advertising pages. He should glance through these pages every month, note what advertising has been added or withdrawn, and should feel a personal obligation to satisfy our advertisers that their money is well spent.

The advertising in the *Journal of the Iowa State Medical Society* could be considerably increased if the State Society was willing to accept unethical and undesirable advertisers. But the Society has adopted a high standard in this matter, a higher standard, in fact, than has so far been adopted by a number of other state medical journals, to say nothing of many of those conducted by private enterprise.

Our advertising offers products which may be depended upon. Advertisers usually keep careful note of available indications as to the value of their advertising. They greatly appreciate letters of inquiry or requests for samples, and each individual member of the Society can help his own official publication by writing an occasional postal card, or filling in and sending coupons, to the firms which advertise with us. The time required is insignificant. All that is needed is a willingness to devote a modicum of energy to this means of assisting the Publication Committee, which is anxious to produce the very best medical journal financially within its reach.

The Journal of the Iowa State Medical Society

Vol. V

DES MOINES, IOWA, NOVEMBER 15, 1915

No. 11

MEDICAL PROGRESS*

PAUL E. GARDNER, M. D., New Hampton

I wish to express my appreciation of the honor conferred on me by the committee in being called to act as chairman of the section on state medicine. It has indeed been a pleasure to serve the State Society as best we could.

As we have nothing original to offer, and since volumes are required to record medical progress and investigation in the past year, we cannot hope to review at any length the many advances of medicine. In this strange place (the world) not much real knowledge happens to any man. One must go after facts as some go after dollars. The self-satisfied doctor, the doctor who already knows it before hand, the doctor who is never without an opinion is almost invariably the man with whom the rest of us are not at all satisfied, who in truth knows but little and who is as short on facts as he is long on opinions. The longer we practice medicine and observe the people and hear each one's peculiar story (probably in the main similar) but each one peculiar to themselves, viewing from varying angles, some putting special emphasis on this part of their important story and some on that, and by the way, the doctor that expects to keep up in sight of the profession at all must listen to the patient's story. It may be hard to act contented as you have had this same story told to you so many times, but remember Booth played Hamlet over three thousand times, and saw new beauties in it every night. We sometimes wish we had that satisfactory feeling of our wonderful ability to "cure" that we had (and we think has come to us all) when we first began to study medicine. My! how we longed to get to the people and cure them of all their ills, and the great question is "are we not devoting too much time and atten-

tion to surgery to the neglect of internal medicine?" While there has been enormous progress and discoveries it only serves to remind us of a vast sea of knowledge to be explored. While the profession apparently is not yet ready to admit that the body louse is the sole infective agent in typhus fever, it is noted that all prophylactic measures so far advanced are concerned only with the insect.

Major Orticoni in Paris Medical for April 17, 1915, after discussing several ineffective methods of dealing with lice by steam, sulphurous acid, vaporized gasoline, etc., avers that he has secured almost ideal results from a ten per cent. solution of commercial formol in water. We trust that the louse will be found to be the only infective agent. The Rockefeller Institute has been, and is doing, a wonderful work, especially along the line of infantile paralysis.

From an economic standpoint alone, the discovery of the hook worm in the south has probably been one of the great discoveries. I think the benefits to the southern people compare favorably with the benefits of vaccination to the rest of the world.

The so-called "Twilight Sleep" we have had no experience with; it certainly is a very active subject especially of late in all the lay papers and periodicals, and even the movies. To use the common street talk it has the "people going." What little we can learn of this new and wonderful treatment, it pleases the people, but after all it is not new.

While we have only mentioned a very few of the wonderful and life saving discoveries, for were we to call attention to all it would make our paper too long and I would only weary you with a lot of things that you now already know, it gives me pleasure to present the several essays on the program.

*Address of chairman of the Section on Medicine delivered at the Sixty-fourth Annual Session, May 12, 13, 14, Waterloo.

THE INDICATIONS FOR CESAREAN SECTION*

W.M. L. ALLEN, M. D., F. A. C. S., Davenport

The invasion of the field of surgical obstetrics by the general surgeon makes the subject of this paper an important one and for the following reasons:

I—The limitation of the Cesarean Section in the year 1881 was: (1) To contracted pelvis of six cm.; (2) to tumours of cervix, or (3) to severe scars or undilatable cervix.

II—These have been extended by obstetricians until at the present time the indications accepted by many would be:

First—Contracted pelvis under from eight to ten cm. with or without test of labor.

Second—Tumor or deformity of pelvis.

Third—Tumor of cervix or uterus which obstruct pelvic canal.

Fourth—Lesions of cervix which may lead to dangerous laceration of cervix or uterus.

Fifth—Scar tissue as result of former extensive cervical or vaginal or rectal or bladder laceration.

Sixth—Adhesions of uterus by ventrofixation in some cases.

Seventh—Prolapsus of cord, in rare cases.

Eighth—Double encircling of neck by cord, endangering life of child where child's safety is demanded and risk ignored.

Ninth—Disproportionately large child.

Tenth—Undescended breech position, after test.

Eleventh—Parietal bone presentation with prolapse of hand and arm.

Twelfth—Occiput posterior position with complications.

Thirteenth—Transverse position with conditions making version dangerous.

Fourteenth—Placenta previa centralis.

Fifteenth—Placenta previa lateralis with complications.

Sixteenth—Eclampsia with undilatable cervix.

Seventeenth—Thyroid enlargement with previous history of thyroid toxemia.

III—All writers agree that the mortality in selected cases without previous manipulations or infection, is very little—perhaps less than one per cent.

IV—All agree that in delayed cases where other efforts have been attempted with chance for infection, the mortality is very great, perhaps twenty per cent.

V—The mortality of the mother (since puer-

peral fever has been prevented—1870), has been very low both in obstetrical hospitals and in private practice, much less than one per cent. Cesarean section has not lessened this rate, but rather increased it, because of the fact that many delayed operations are performed on patients in no condition for any kind of an operation whatsoever, to say nothing of such a serious procedure as a Cesarean section, and in many of these cases the proper obstetrical treatment which in ninety-five per cent of the cases would have saved the mother, has been neglected or only feebly undertaken, and then the patient as a last resort is turned over to the consulting surgeon who shoulders the responsibility.

VI—The mortality of the child has been lessened because of the less frequent use of *high* forceps or version, and the more frequent Cesarean sections performed in the interest of the child.

VII—Admitting that general and abdominal surgeons and gynecologists are better prepared to successfully operate upon these cases than the *average* obstetrician, the important fact remains that in the interests of the mother an *early diagnosis* must be made, and *this* can not be left to the general surgeons as in this respect they are not equipped by training or practice to render a reliable decision as to the ability of the mother to be delivered safely without forceps or with forceps, in the majority of cases.

VIII—The diagnosis of the conditions present must reveal the proper indications for Cesarean section, and this diagnosis must be made by the attending obstetrician early, the first six indications above given and the seventh can be revealed at the first examination, and that examination should always be made early in the pregnancy. In all of these serious cases the patient should be placed in a hospital in the ninth month; and in cases of contracted pelvis the advisability of a test labor under a skilled obstetrician must be considered.

The remaining indications, seventh to fifteenth, referring to errors of position of cord or child or placenta, or unduly great disproportion in size of child to pelvis, can certainly be made during the first stage of labor, if not before; and if these indications can not be negated, a skilled obstetrician should be called in to make the diagnosis at once and decide as to the need of a Cesarean section.

In reviewing the propositions; Reports of the Vienna Hospital in 1881 showed but six Cesarean sections in over 6,000 cases, and all for contracted pelvis or deformity, the general mortality

*Read before the Sixty-fourth Annual Session of the Iowa State Medical Society, Waterloo, May 12-13-14, 1915.

for all obstetrical cases was less than one per cent, puerperal fever being the cause of more than half the mortality, and the remaining two-tenths per cent being principally due to nephritis and tuberculosis. Certainly if we eliminate the puerperal fever we can claim little decrease in the hospital mortality rate of the present day over that period, and that the indications for section at that time were very *limited* is proven by the fact that only one section to 1,500 cases was required. On the other hand the mortality rate for Cesarean section had been so high (in the late '70's averaging seventy per cent) the Porro operation was chosen and with a mortality rate of about thirty-three per cent. Aseptic surgery was not practiced there at that time. The change in our views since the Sanger operation has been very great, and may be shown by the following reports: Chrobak reports in 1908—13,000 cases, 975 with contracted pelvis, or seven and one-half per cent all under eleven cm. Seven cm. is given as the smallest diameter in which spontaneous delivery occurred, seventy-two and one-half of the contracted pelvises were delivered spontaneously with a maternal mortality of eleven one-hundredths per cent, and a fetal mortality of two and fourteen one-hundredths per cent. Where forceps were used there was no maternal mortality, and a fetal mortality of seventeen and two-tenths per cent. Forty-four hours was given before using high forceps, and resulted in two deaths. Cesarean section was performed twenty-nine times (twenty-two one hundredths per cent) with one death. Versions gave no maternal mortality, but gave forty per cent fetal mortality. There is some mistake about our diagnosis of these cases of contracted pelvis in this state. One member stated in our Journal, in discussing Dr. Condon's paper in 1913, that he had only seen two cases of contracted pelvis in 2,500 cases. Leopold in Dresden found 6,365 cases of contracted pelvis in 15,338 cases, or over forty-four per cent. Hannes of Breslau reports (1908) sixty-four per cent of spontaneous births in contracted pelvis, high forceps used in one and eight-tenths of the cases with no mortality for the mother and fifty per cent fetal mortality. Cesarean section sixty-seven times, or eleven and two-tenths per cent, with eleven deaths, or eighteen per cent.

In 1909, in Doederlein's Clinic in Munich, Cesarean section was performed in sixteen one hundredths of the cases. Shanta (1909) reports 5,288 cases of contracted pelvis in 49,397 cases. Forceps were used in three and nine-tenths of the contracted cases with no maternal mortality, and eleven and six tenths per cent fetal mor-

tality. Cesarean section was performed in two and one-tenth per cent of the cases, with a maternal mortality of three and four-tenths per cent, and a fetal mortality of one and seven-tenths per cent. High forceps above the brim were used in two and seven tenths per cent of the cases with a maternal mortality of one and three tenths per cent, and fetal mortality of thirty-eight and seven-tenths per cent.

In 1910 Leopold reports 295 selected sections with ten deaths, or three and three-tenths per cent. He wants patients admitted to the hospital two or three weeks before the operation. Leopold reports in 1911 a reduction in maternal mortality to one and two-tenths per cent and no fetal mortality. These were selected cases of Cesarean section. Scipiadès reports fourteen per cent maternal mortality for central placenta previa, and eighty-three and one-half per cent fetal mortality. He then reports three cases operated on by Cesarean section with no mortality. Briggs (1912) reports cases of Cesarean section performed because of delayed progress due to several coils of the cord about the fetal neck.

Marsh, in 1912, reports three cases of eclampsia operated by section under spinal anesthesia with stovain, with no maternal death.

Macrae of Iowa reports, in 1913, three cases of Cesarean section done for placenta previa with no mortality. E. P. Davis in his beautiful book on operative obstetrics states, "There must have been no previous attempt to deliver the mother, no frequent vaginal manipulations, no pre-existing septic condition of the birth canal, mother and child must be in good condition." His own results of ninety-five operations show seventy-two clean cases with one death and twenty cases infected before the operation, of which eight died, or forty per cent.

DeLee in his great book, after giving the usual well known *absolute* indications for Cesarean sections states, "The *relative* indications, speaking broadly, will exist when the accoucheur decides that abdominal delivery offers better chances for both mother and child than delivery below. It is largely subjective."

Petersen in his review of 500 cases of Cesarean section for eclampsia patients in 1914 shows a maternal mortality of thirteen per cent.

Rother of Budapest reports in 1913, nine cases of enlargement of the pelvis by removal of one and five-tenths cm. from the promontory of the sacrum.

Kistner, in 1913, reports one hundred and three cases of extra peritoneal section with but two maternal deaths. Weibel, sixty-seven extra

peritoneal with two deaths, and Fisher, of Wurzburg, sixty cases with one death.

In order to confirm my own opinion that the *relative indications* for Cesarean section had increased the operation more than necessity demanded and more than experience of obstetricians demanded, I sent out five hundred letters to physicians doing obstetric or gynecological surgery in thirty-five different states, and received 60 replies, some of which are very interesting, some more extremely conservative than I imagined, and some quite radical, but nearly all with exceedingly good results. The following twenty-four questions were asked in the letters:

*1. What per cent of your obstetrical cases have required forceps?

2. What per cent have required high forceps at or above the superior straits?

3. What mortality for mother?

4. What mortality for child?

5. How many of your obstetrical cases have had eclampsia, and per cent if possible.

6. How many deaths for mother, and what treatment?

7. How many deaths for child?

8. How many cases of placenta previa have you had and how treated?

9. What result for mother?

10. What result for child?

11. What per cent of your obstetric cases have required Cesarean section?

12. What per cent of your Cesarean operations have been for deformity of pelvis?

13. What per cent for tumors?

14. What per cent for contracted pelvis?

15. What per cent for inertia?

16. What per cent for retarded descent of head?

17. What per cent for adhesions?

18. What per cent for placenta previa?

19. What per cent for eclampsia?

20. What per cent for other causes, such as,

21. Length of time from beginning of labor before operation?

22. Explain reasons for delay and influence upon results?

23. Mortality where operation was decided upon before labor began?

24. Mortality where operation was undertaken after other efforts at delivery?

Many men were unable to give me their reports because of lack of time, and frequently because of incomplete records.

Frank W. Lynch, whose report I desired, writes in part, "There is little doubt in my mind that the high mortality which attends Cesarean section in general is due to the fact that the proper diagnosis had not been made until there is scarcely any alternative than the late Cesarean. I am also quite certain that the gynecologist and

obstetrician is the one who should determine whether a section is or is not necessary. There is little doubt that the general surgeon is guilty of operating unnecessarily in many instances, unless he has had his diagnosis confirmed by one who is doing obstetrics. I have been very much surprised in my own work to find the number of sections which have been made necessary by placenta previa which have been brought to me undiagnosed in spite of the fact that signs and symptoms had been present for some days or weeks. I am also fully convinced that few Cesareans in this section of the country are demanded by pelvic conditions. The indications have become more elastic, and with improved results due to the use of the earlier section, the conditions have so changed that the operation has been offered as an alternative to what promises to be a long and difficult labor.

Bad as the reckless employment of the early Cesarean doubtless is, there is little doubt in my mind of its superiority over the late operation in desperate cases with its high mortality. You are perfectly right—the diagnosis is everything!

I hope that you will be able to incorporate in your paper some statistics which will give the actual mortality of the operation in Illinois. I feel perfectly sure that it is more than is generally considered. You recall that Campbell, in Michigan, a year ago, showed that it had been twenty-five per cent for the state—undoubtedly because of imperfect diagnosis."

There have been a number of cases reported to me which resulted fatally, and about which there has been much criticism, but I have not received answers from these men.

E. G. Zinke, of Ohio, was unable to tabulate his cases for me, but his articles on eclampsia, placenta previa and Cesarean section are valuable indications of the extreme conservatism among some expert obstetricians. He still believes in the medical treatment of eclampsia, and particularly with Norwoods tincture of veratrum. His experience prior to 1911 was with ninety cases of eclampsia; as to placenta previa he concludes that, "the conservative Cesarean section is the only means by which the maternal mortality and the fetal mortality can be further decreased."

DeLee wrote that he had not tabulated his cases, but agreed with me, I quote, "that surgeons have only one method of solving a knotty problem, and that is by means of Cesarean section, and I am absolutely convinced that too many Cesarean sections are being done, and for too little indication. Cesarean section is the quickest and easiest way out of the difficulty,

*See pages 472-473 for tabulation of replies.

but is not always the safest, and every little while I hear of a woman dying from Cesarean section, but very seldom are these cases published." He reports seventy-five Cesarean operations with two maternal deaths and with one fetal death. His total cases of obstetrics numbered about 5,500. Holmes, of Chicago, and Goodman, of Columbus, and Hirst, of Philadelphia, give such positive views that I give them in full.

Holmes writes, "To answer your questions would be impossible as it would necessitate statistically studying my work since I began practice; to answer at all means that I may recall to the best of my ability some facts.

3. I never lost a mother as a result of high forceps, through eclampsias, or placenta previas (the latter naturally exceedingly few), as I have always practised version in such cases—where version is contraindicated in p. p. is very rare.

4. Certainly not far from ten per cent.

5. In my personal private practice only three—this does not include hospital and consultation work.

8. Cannot answer off hand.

11. Cannot answer off hand.

12. Have had not far from fifty Cesareans. All but three were for contracted pelvis; one for ovarian cyst, one for fibroid, one for osteosarcoma of the sacrum. Two of the contracted pelvises were complicated with eclampsia—the Cesarean being done for the contracted pelvis, not for the eclampsia—likewise, one had placenta previa, but it was done for the contracted pelvis.

15. To do a Cesarean for this indication would be an obstetric crime, certainly, meddling midwifery.

16. This is not an indication for Cesarean section, per se.

18-19. Still believe these are not indicative per se for Cesarean section. When present in pelvic deformity, even of minor degree, they may be considered as indications.

21. In repeated Cesareans, and in these women who have marked pelvic contraction, plan the operation at a set time. For all others believe in a test of labor. The course of the labor is supervised by external palpation and rectal examination. It is utterly needless to make vaginal examinations. The only possible excuse in such cases for a vaginal examination is to see the woman for the first time in labor. All border line cases of pelvic contraction, seen in pregnancy, have a thorough summing up to their potential possibilities in labor. Assistants have note on history that no "internals" are to be made. After six to twelve hours of labor and no descent, Cesarean is done.

A woman tired out by labor, high pulse, temperature perhaps, frequent examinations is not for Cesarean. If attempts at version or forceps have been made, craniotomy is the last resort. If baby is still in fine condition pubiotomy or symphysiotomy may be considered.

23. Lost none.

In about forty consecutive sections I have not lost a mother from the section. The one who had antepartum eclampsia with contracted pelvis, had recurrence of convulsions on the third day, and died in convulsion—the only death in this series.

My first section died (15 or 16 years ago), the third and seventh or eighth. These had frequent examinations. Of these three, two died from infection—peritonitis, and one acute gastric dilatation.

I hope this will be of some use to you."

Goodman writes, "Replying to your questionnaire of the 20th, instant, I beg to offer you such information as I can. I must tell you in advance that my practice is limited to consultation obstetrics and especially obstetric surgery and gynecology. Therefore you will see that the percentage of forceps deliveries in my practice will be so large as to be of little value to you. I take no cases of my own and am called to apply forceps, give advice as to delivery, render such operative help as is necessary, and to aid in the treatment of obstetric diseases, as eclampsia, sepsis, etc., etc. However, I will gladly give you such information as is at hand and is considered to be of value to you.

1. Very small percentage. Manipulation and Pituitrin have effected delivery in most of the cases to which I have been called. "Watchful waiting" has done much in my cases.

2. I never did and never will use the high forceps operation. I consider it the most dangerous operation in obstetric surgery.

3. See 2.

4. See 2.

5. Three per cent of cases seen in consultation.

6. No deaths to mother. Stroganoff treatment, including bleeding. Also veratrum viride, morphia and hyoscine. The hyoscine was used where a mania followed. I attended an operation, by a brother practitioner, for Cesarean section where both mother and child died. I have twice made an accouchment force' and lost one child.

7. One dead child resulting from the accouchment force'.

8. Eight cases.

Three cases treated by Braxton-Hicks method.

Five cases treated by Cesarean section.

9. Two died.

One case was carried thirty miles in an ambulance to the hospital, over country roads, and arrived at the hospital in an exsanguinated and moribund condition. In a desperate attempt to save her life, I made a Cesarean section. She left the table better than she was when she went on. She progressed nicely for three days and then suddenly expired. No autopsy was allowed, but I think that she died from an embolus. In this case I should have waited for her to recover a little and then to have emptied the uterus, as I knew that the child was dead. The implantation was central.

	1	2	3	4	5	6	7	8	9	10	
NAME	FORCEPS	HIGH FORCEPS	MATERNAL MORTALITY	FETAL MORTALITY	ECLAMPSIA	MATERNAL MORTALITY	FETAL MORTALITY	PLACENTA PRAEVI	MATERNAL MORTALITY	FETAL MORTALITY	C S
ALLEN, IOWA	1270 cases 10%	1%	0	50% of high forceps	7	1.	6	2	0	2	
COLUMBUS, OHIO	965 cases 9.17%	1.8%	0	0	1			9	0	22%	
SZLUPAS, PA.	625 45	2 625	0	2	3	0	1	3	0	1	
BACON, ILL.	5%	1%									
WATKINS, ILL.											
DARNALL, N. J.								1 version 2 C. Section	1	1	
OGDEN, ARK.	7%	3%	0	.6%	2%	0	2%	4	0	4	
HOFFMAN, CAL.	1500 cases 30%	10%	0	1%		1	1	2 1 C. Section	0	1	
GLASS, OHIO	1000 cases 15%	4 1000	1	1%	5	0	3	6 Version	0	0	
POLAK, N. Y.	2.5% Hosp. 20% Private	0						63 Version	3%	55%	
FURRER, OHIO	4% Hosp. 25% Private	1%	0	42% of forceps	1%		25%	4 Version	0	75%	
CUTHRIE, WASH.	1060 cases 5%	1.5%	0	0	9	2	0	3	0	1	
ENSLEN, IND.	½%	.3%	0	3	3	1	1	6 Exp.	0	3	
HIRST, PA.	32%	few	?	?	250	10%	35 to 40%	60 and 70	5 and 10%	50%	8
ALTMAN, TENN.	4000 cases 7%	not 1%	0	50% of forceps	60	4	15	30	1	8	
RITTER, MO.	15% consult. 6% private	don't use			2%	5%	10 to 20%	15	5%	10 to 15%	
LOIZEAUX, N. Y.											1
MACRAE, IOWA											
FAY, IOWA											1
KNOTT, IOWA											1
DAY, IND.	50%	0	0	0	3	1	1	1	0	0	
GOSNELL, KY.	608 cases 40 cases 6.5%	12 cases 2%	0	.5% 3	.5% 3	2 Med. treat.	0	4 Version	0	1	
AYARS, MO.	150 cases 5%	1	0	1	1	1 Med. treat.	0	1 Version	0	0	
HOLMES, ILL.			0	10%	Private 3						50
KELLY, OREGON	800 cases 6.75%	.5%	2	3	11.	4 Med. treat.	3	5 2 Version 3 Exp.	1	1	0
SOMERS, NEB.	15%	0	0	3% of forceps	2	0	0	1	0	1	1
KINNE, MASS.	2650 cases 5%	1%	4	?	10	1	60	7	2	50%	
BLAND, PA.	20%	few	0	0	few	1	1	2 Forceps	0	2	?
REEVES, KANSAS	506 cases 11%	about 25% of all cases	4% of all forceps	6 66	3	2	0	3	1	3	0
GOODMAN, OHIO	few except consultations	never			3% Consultation	0	1	8	2	1	20
HEALTH DEPT., SYRACUSE, N. Y.	8%	.2%	0	.5%	.2%	2 Consultation	0	2	50%	50%	
MOLYNEAUX, PA.	9%		2%	7%	8% 12 cases	2	10	6	2	3	2
DE GROAT, N. Y.	No record	0			1	0	1	1 Version Multip.	O. K.	1	4
DE HOND, WIS.	1300 cases 90%	5 to 10%	0	0	2	0	1	6	Good	Good	0
LAWRENCE, PA.	.254%	0	.007%	.2%	.13%	.16%	42%	4	0	1	
BAXTER, MINN.	125 16%	0	0	5% of forceps	.8% 1 case	0	0				
COOLEY, ILL.	300 10%	.5%	0	2%	.5% 3 cases	0	2	2 Barnes Bag 4 Packing	Recovery	2 died 4 lived	One Per
BANKSDALE, VA.	600 cases 20% (uncertain)	½%	0	25%	7 in 600 cases	1	4	4	0	0	0
ALLISON, UTAH	About 10%	Don't do it			Toxemia 1½%	0	0	3	0	0	2
CARROLL, WASH.	50%	5%	None	2%	4	None	None	6 Forced Labor	1 died	1 died	Very
GELDER, ILL.	5% to 9% varied in dif. periods	2%	None	1½%	3%	None	50%	4 Packing	0	100%	1% requir 1% oper

12	13	14	15	16	17	18	19	20	21	22	23	24
FORMED PELVIS	CONTRACTED PELVIS	TUMOR	INERTIA	RETARDED DESCENT	ADHESIONS	PLACENTA PRAEVIA	ECLAMPSIA	OTHER CAUSES	TIME OF LABOR BEFORE OPERATION	REASONS FOR DELAY	MORTALITY IN EARLY OPERATION	MORTALITY IN LATE OPERATION
2	1	1	0	0	0	0	0	0	1 hour 8	Patient refused exam.	0	100%
	62.5%		0	12.5%	0	0	12.5%	Prolapsed Prim. 12 1/2%			12.5%	25%
	1								8 hours	Not seen before	0	
About 50%						About 10%	About 50%		Generally before		0	
	17	2			1						0	2
	16			1		2	5			Brought to Hosp. late		13%
0	0	0	0	0	0	100%	0					
	1			3		1	1	5	12 hours	No influence on result	0	6%
50%					7	2	3				0	3%
							1			0		
1-3%	66 2-3%	0	0	0	0	0	0	0	2 hours	0	0	0
											0	
									Op. early		0	0
		1					1	1	Early		0	0
7%			2			1%	2%				0	4% maternal 11% fetal
5	5	1				2	1	3		2 days	0	1
						3	2	3		24 hours delay of attend. M. D.	0	1
	60%						30%	10% Undilated cervix			0	0
	80%					20%					0	1
	2											
1											0	Early records lost
	47	2						1 Cancer of sacrum			Eclampsia 1	3
0	0											
0	0	0	0	0	0	0	0	2			0	0
	1											
	All											
3	20		0	0	0	5	0	1	No record (test)		0	3
50%	0		0	0	0	0	0	1 Cancer of cervix	2 days	No diagnosis	0	20%
0	66 2-3%		0	0	33 1-3%	0	0		40 hours 18 hours	Referred patient	0	50%
	100%		0						18 hours 48 hours 72 hours		0	33%
0%	100%		0	100%	0	0	0		Average 36 hours	Referred cases	No experience	0
0	0		0	0	0	0	0	Obstructed pelvis	Operate before labor		0	0
0	0		0	0	0	0	1		1 hour		0	
1-3%	33 1-3%		0	0	0	66 2-3%	33 1-3%		None 1 case—2 dys	In country	0	0
None	2	None	None	None	None	None	None	None	Operate before labor		None	
100%	None	None	None	None	None	None	None				None	None expect. about 100%

The other case was one of central implantation and was a good case for operation. She stood the operation well and was returned to bed in good condition. She died suddenly three days later. Autopsy was not allowed and I do not know why she died. All other mothers lived. (The second case here was Cesarean).

10. Nine babies were delivered in eight cases. In the three cases delivered Braxton-Hicks method, a pair of twins were born dead. They were six months. The other two single babes lived. The babe of the first mother described in No. 9 was dead when she arrived at the hospital. It was just eight months. The babe of the second mother described in No. 9 lived for twelve hours and then died of a faulty heart. It was term. The other babe that died was a seven months one and was delivered by Cesarean section. It lived for a few hours but was not expected to survive.

11. As I never kept a complete record of all cases I cannot answer this. I have made twenty-nine Cesarean sections.

12. Three cases.

13. Twenty cases. Also had one case for heart disease and both lived.

15. None.

16. None.

17. None.

18. Five cases.

19. None. But I think it a good plan under certain conditions.

20. One for advanced heart disease with loss of compensation, etc.

21. No complete record, but advise test of labor in nearly all cases.

22. Test of labor often fools the best obstetricians. Operation is often avoided by test of labor.

23. None for mothers. One premature child died.

24. Three cases.

Two cases died, as noted in No. 9.

One case died of sepsis complicated by syphilis.

My Dear Dr. Allen:

My obstetrical work is largely consultation and hospital work, and to answer the questions asked would involve a very large amount of work, which I am unable to give the time for at present. I am glad, however, to answer as far as I can, using the same numbers as appear in front of the questions as asked.

1. About thirty-three per cent of my private cases require forceps, either in the pelvic cavity or at the outlet.

2. I very rarely use axis-traction forceps, above the superior strait, as I prefer Cesarean section in those cases.

3 and 4. Percentage not at present available.

5. I have seen, in round numbers, 250 cases of eclampsia.

6. Deaths about ten per cent. Treatment chiefly purgation and sweating and NOT immediate or operative delivery.

7. About thirty-five or forty per cent, I should say.

8. About sixty or seventy. Treatment, choice between Cesarean, packing, version, forceps or rubber bag, depending on indications.

9. Maternal mortality not over ten per cent, and I believe nearer five per cent.

10. Fetal mortality about thirty per cent, at least.

11. Do not know. I have had eighty-seven Cesarean sections, with two deaths.

12 to 20, inclusive. Do not know.

21. In elective cases I prefer to operate one week ahead of time. In cases sent in the hospitals the time from onset of labor has varied from a few hours to six days.

23. One death occurred in a clean elective case from premature absorption of the catgut used in closing the uterine wound, and consequent leakage.

24. One death occurred in a woman, with infection when operated on, who had been in labor for three days, and had had repeated attempts at delivery, amid very poor surroundings. This danger can be minimized by the use of the extra-peritoneal Cesarean section, or by the Porro operation with extra-peritoneal fixation and drainage of the stump. To meet the different indications, at least six different techniques are required.

Trusting that this will be of service to you, I am,

Very sincerely yours,

JOHN C. HIRST.

Holmes knocks out my question No. 15 and it will be noticed that only one answer gives operation for inertia, the question was put in advisedly because of current reports that section operations were being done for uterine inertia rather than attempting other methods. The questions were not explicit enough as many men gave percentage of mortality in total cases instead of operative cases.

In the following list of answers received it will be noticed that forceps were used by several who report only a few hundred cases in percentages ranging from one-fourth of one per cent to as high as ninety per cent. Hoffman of California gives 1,500 cases with thirty per cent low forceps and ten per cent high forceps with no maternal mortality and one per cent fetal mortality and one-half of one per cent given for number of Cesarean sections required. Kinne, of Massachusetts, gives 2,650 cases with five per cent low forceps and one per cent high forceps and four maternal deaths, and only one section made.

Glass, of Ohio, gives 1,000 cases with fifteen per cent forceps and with four cases of high forceps and one maternal death and no sections made.

Altman, of Tennessee, gives 4,000 cases with

seven per cent forceps, and has had one per cent high forceps with no maternal mortality and fifty per cent fetal mortality, three sections made for contracted pelvis and no deaths. There were also sixty cases of eclampsia with four maternal deaths and thirty cases of placenta previa, with one maternal death. This is a very splendid showing.

DeHond of Wisconsin gives 1,300 cases with ninety per cent low forceps used, as he says, to save the mother from pain and shorten the suffering. He reports no maternal death and no sections made. It will be noticed that nearly all give contracted pelvis as the cause of sections in eighty to one hundred per cent of the cases, and all report little mortality in early operations, and from twenty per cent to one hundred per cent in late operations.

In conclusion, permit me to offer sections VII and VIII as a matter for serious consideration and to call attention to the fact that we do not properly consider the part that the contracted pelvis and disproportionate size of child to pelvis, play in the question of indications; nearly all the answers give this question the highest percentage as to the reasons for operation, and yet in the large German and Austrian clinics from sixty to seventy-five per cent of such cases with contracted pelvis are delivered spontaneously, and in Vienna a test labor of over forty hours is given before operating with knife or forceps. Unfortunately many of our men who practice obstetrics are not equipped to do major surgery with the knife, and on the other hand very few of our general surgeons have any knowledge of the value of the obstetrical forceps, nor of the wonderful possibilities of the obstetrical patient to be delivered without the knife. These two difficulties may be overcome by team work provided both parties insist upon an early and correct diagnosis of the conditions present in order to secure the safest and best course of procedure in the case.

Discussion

A. G. Hejinian, Anamosa: I am sorry to say that I did not hear every point made by the essayist, but as far as I was able to hear I enjoyed the paper very much.

Unquestionably Cesarean section is easy to decide upon in those cases in which we find absolute dystocia, those in which there is a first degree contraction of the pelvis or obstruction of the passages for normal delivery. Whenever we have a case of rickets or fibroid of the uterus, or some other neoplasm in the parturient canal, it is not a difficult matter to decide what to do in those cases. For example, about eight years ago I saw the case of a woman forty-two years of age, multipara, had sev-

eral living children, but who had not been pregnant for ten years, and a very large, fleshy woman. She had been in labor about a week, having now and then profuse hemorrhage. When I was called the attending physician stated that he thought the head was presenting, but upon examination I found presenting nothing else but a large fibroid and two or three small ones in the uterus. In a case like that it is not a difficult matter to say what should be done.

I recall another case whom I was called in to see in consultation, the patient a small woman of typical rickets with marked kyphosis; of shallow pelvis. I am sure the diameter of conjugata vera was less than 10 cm. In a case like that again it is not a difficult matter to decide what to do. I advised immediate operation in both these cases.

When cases of this kind come under our observation, we should institute prophylactic measures; that is to say, we ought not to wait until they are exhausted or infected, but before they are in labor we ought to decide to operate, when I am sure we will have good results.

When, on the other hand, we see the border-line cases, those in which we have a comparatively second degree contraction of the pelvis, obstruction of the parturient canal by neoplasms, or in some eclampsia cases, placenta praeviae, or abnormal presentations; those are the cases that indeed puzzle the attending physician to know what to do, whether to allow natural delivery or interfere with it.

A case of this kind I saw about ten years ago. The patient had been in labor about two days. The case was that of a primipara, thirty-eight years of age, with very hard, unyielding vaginal muscles and brow presentation. The attending physician had applied forceps two or three times and failed. I advised immediate Cesarean section, which I performed, and we have now a 10-year-old boy going to school and the mother well. In another case operated six weeks ago, the patient, forty-four, primipara, unyielding vaginal walls, contracted pelvis, had been in labor three days, with breech presentation. We operated, and mother and child both lived and left the hospital in two weeks.

W. A. Rohlf, Waverly: I simply desire to emphasize a few of the ideas which have been developed by Dr. Allen in his exhaustive paper.

It does not seem to me that it is a very long way for us to arrive at the point where we would hesitate to suggest Cesarean section in a case of uremia where we feel that a prolonged labor is going to endanger both lives, particularly so if with this condition there is a rigid os. Then if it is understood that in these cases Cesarean section is indicated, and if it is then further understood that they must not be meddled with and that the vagina must not be infected by useless and repeated examinations, the danger incident to Cesarean section is surely the least to mother as well as to child.

Again, it does not seem that it would take any

stretch of imagination at all to agree with the idea presented, i. e.: That when in a case of placenta praevia centralis a Cesarean section, or even a Porro, is properly done, the danger is a great deal less than it would be with the methods that all of us have used under these conditions, so many times with disastrous results.

I really feel that these two conditions are the ones in which Cesarean section offers greater safety than any of the other methods that have been used in the past.

Dr. Allen: There is just one thought that I wish particularly to impress upon the members here, and that is that early diagnosis should be made in these cases; that they should not be brought to us at the last moment, not only infected, but in many cases beyond any kind of condition for successful operation. Otherwise it makes very little difference. There is no doubt but that a great many needless operations have been done. But on the whole the results have been good, the children at least have been saved, and the mothers have not been harmed in many of the cases. But when operation has been unduly delayed because the physician in charge has handled the case in a half-hearted way—he thinks the patient “will get along”, and finally he rushes her to the hospital and the surgeon has to take the blame.

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FIXATION OF THE FEMUR FRAGMENTS WITH A LANE PLATE WHEN USING A BONE TRANSPLANT AFTER EXCISION*

JAMES FREDERIC CLARKE, M. D., F. A. C. S.,
 Fairfield

After the preparation of my contribution to this program, a discussion of bone cysts by Dr. Marcus Skinner, of Liverpool, appeared in the May number of “Surgery, Gynecology and Obstetrics,” page 570. Because of Dr. Skinner's much more extensive experience and more able presentation of the general subject I have expurgated all but the original material from my paper. Such a revision gives to this communication at least one virtue—brevity.

A Polish girl, G. S., twenty years of age, born in Iowa, never ill in her life except with mumps and measles; with an entirely negative family history; on May 20, 1914, suffered a spontaneous fracture of the left femur. The grave condition of the bone making possible this fracture came on with abso-

lutely no discoverable symptoms. One week before the accident the patient with companions on a picnic excursion had walked eight miles through fields and over country roads without pain or fatigue. Never having suffered in the least she was, before the fracture, unconscious of the disability.

On the mentioned date, while attempting to move a small light table the femur was shattered and she fell to the ground with intense suffering. A radiogram revealed the condition—a simple, much comminuted fracture of the shaft of the femur two inches below the greater trochanter, with a rarefaction of the medulla of the bone.

This unusual picture brought to my mind a statement I had read in the published “Clinics” of Dr. J. B. Murphy Vol. II, No. 5, page 784, where, in speaking of the differential diagnosis of osteitis fibrosa cystica and sarcoma, Dr. Murphy says: “You can make a diagnosis in this class of cases as well with the Roentgen ray as you can with the microscope” * * * “The skiagram makes the differential diagnosis and makes it positively.”

I at once sent my X-ray negative to Dr. Murphy asking his opinion of the case. He promptly gave a positive diagnosis of sarcoma and advised a resection of the entire upper third of the femur and the use of a long tibial bone graft.

On June 2nd I opened the thigh to make the advised resection. I found the upper portion of the femur cystic. There was a hard thin shell of bone enclosing a large irregular cavity filled with a soft, seemingly myxomatous material. The cavity and the tissues about were quite hemorrhagic, probably from the fracture.

After cutting through the distal femoral fragment with a chain saw, and clearing away the comminuted bone, the cavities in the upper and lower portion of the femur were easily cleaned out leaving smooth hard walls. The appearance impressed me as a simple cyst rather than a sarcoma so I determined to risk saving the articular surfaces. I placed within the cavity a large graft from the opposite tibia and then fixed the two great fragments of the femur with a long Lane plate which bridged the interval left by the removed bone.

Recovery was uneventful. Extension not being needed, a moulded anterior plaster splint with key rings imbedded in it on strips of tin, allowed suspension of the limb so that the patient could move with ease and sit up for meals.

This patient was sitting in a rolling chair in seven weeks; walking on crutches in thirteen weeks; later using one crutch, then a cane, and was finally able to begin work and walk as before in thirty-two weeks. I was probably over cautious and these times might have been shortened. My last skiagram, made nine months after the operation, shows the bone regenerated, and the transplant well incorporated in

*Read before the Sixty-fourth Annual Session, May 12-13-14, Waterloo.

the femur. The shortening is three-fourths of an inch. The patient walks without a limp.

The cyst contents and bone fragments removed at this operation were kindly examined by Professor Henry Albert. His report reads as follows:

The soft tissue consists of proliferated fibrous connective tissue with a few giant cells and in some places with a large amount of blood and blood pigment. There is no evidence of sarcoma. I regard the process as a fibrous cystic osteitis. * * * I have in the museum a specimen of a similar process which was removed by amputation of the limb under the suspicion that it was a malignant tumor.

After the experience of this interesting case and a review of the literature in my library I am inclined to the following conclusions:

1. Even the masters of our profession (and certainly Dr. Murphy is one of the first) must confess that the X-ray diagnosis of bone sarcomata is at times impossible. We of small experience can be comforted in our doubts—our inability to be positive.

2. Since (so far as I can learn) the most radical amputations for sarcomata of the long bones give as large a percentage of returns and as high a mortality as conservative excisions, it would seem, in doubtful cases, justifiable to make a guess of non-malignancy and do a conservative excision.

3. Possibly my patients femur treated as a simple fracture without operation would have resulted in a cure. Dr. Skinner reports excellent results in an apparently similar case with simple splint and rest.

4. So far as I know this is the first use of a Lane plate bridge to maintain fixation of separated bone fragments until the transplant has grown strong. This seems to insure a straight limb with a minimum shortening. It obviates cumbersome and uncomfortable after treatment and much shortens the time of confinement to bed.

Discussion

William Jepson, Sioux City.—Dr. Clarke is indeed to be complimented on the success which has followed his efforts in the excision of this bone cyst or tumor. There is, however, one impression which I fear may gain currency from the results he obtained that might possibly be serious if the method were applied to a large number of other cases. Dr. Murphy, as I understand, made the diagnosis of a sarcoma. Undoubtedly in making this diagnosis he included in it that class of tumors which are known as myelomas, formerly known as myelomatous sarcomas, and in regard to which there is in the minds of many pathologists and surgeons a question as to whether they possess any malignancy at all because

of the fact that they do not give rise to metastases either to adjacent lymph nodes or to the lungs. I understand further that the doctor had already formed the idea that this was not a sarcoma, which I was glad to learn, for let us remember that when dealing with a round, spindle-celled, or mixed sarcoma of the bone either endosteal or periosteal, we are dealing with a most serious malignant growth, and anything short of sacrificing that bone completely is not giving the patient a just chance unless that patient has declared beforehand that an effort to save the limb is more desirable than that of saving life.

C. E. Ruth, Des Moines.—I simply want to report a case illustrative of the difficulties and uncertainty in the way of determining by the X-ray and also by the tissues, what we have in these cases.

A young man eighteen years old was brought to me the 29th day of October, with the following history: In April of last year he was kicked on the lower part of the thigh by a two weeks' old colt.

He paid but little attention to it, although it hurt him badly, and finally, the pain disappearing, he continued his work without further consideration of the matter until in August it swelled rapidly and pained severely. About the middle of September he consulted a surgeon in the northwestern part of the state, who incised this swelling and took from its interior, supposedly from the bone, specimens that were referred to the state laboratory for examination, and the report from the laboratory was that it was cystic and not malignant. The leg bled so badly that every day the large dressings would become saturated and had to be changed twice daily. When he came to me he looked as if there was absolutely no blood left. I did not examine the hemoglobin at that time. The urgent need seemed to be to stop the hemorrhage. We found a large fungating, sloughing, oozing mass, that was probably protruding three inches from the general surface of what had been the normal thigh contour, the sloughing area being $3\frac{1}{2}$ inches across.

We administered just a little ether and rapidly destroyed all the interior of the growth with a large cautery point. We succeeded in arresting the hemorrhage, and five days later amputated the limb at the hip joint. Some little time afterwards, when he had improved considerably, he showed a hemoglobin of 18 per cent. We transfused from the mother—a little later removed the glands from the groin, and succeeded, for the time being at least, in saving the boy's life, for he left the hospital about three months later fat and hearty with hemoglobin of 36 per cent. and blood count of 4,266,000 reds and 7,800 leucocytes.

With reference to the operation that Dr. Clarke has done in this case, we are pleased to know about it, it is certainly splendid. But I am reminded that when we undertake to excise sarcoma of the bone, we are undertaking a thing that is more difficult by far than removal of the limb. It usually takes much

more time, and, as Dr. Jepson has said, we are dealing with one of the most dangerous things we have to deal with; that is, when we have the cells characteristic, particularly in combination of sarcoma. In the case I have cited I had two pathological reports besides this, on sections that I took from the specimen, showing that the growth was a mixed celled sarcoma. X-ray also showed malignancy at the time the case came into my hands.

Henry Albert, Iowa City.—As Dr. Clarke has said, I examined microscopically a specimen of the tumor he submitted, and I found no evidence of sarcoma. Dr. Clarke deserves great credit for having treated the condition as a pathologically non-malignant process, especially in view of the small number of reported cases of bone cysts or cystic osteitis, and also because of the fact that as good a clinician as Dr. Murphy had made the statement that it was possible to diagnose this case by means of the X-ray examination alone, as a case of bone sarcoma.

I have seen a number of cases of myeloma or the so-called giant-cell sarcoma to which Dr. Jepson referred, in which by means of the X-ray we have found a picture that is just like a true sarcoma. As a matter of fact it is a solid, although soft, tissue, and grossly it is not possible to distinguish it from a true sarcoma developing from bone marrow. In addition to the case reported by Dr. Clarke, I have within the past year, examined another like condition. The history of the last named case, briefly stated, is that of a young man eighteen years old who received a slight injury to the tibia. Immediately following, there was some swelling which continued to gradually become more marked. There was no evidence of acute infection. In all probability the fact is that the injury in this case served simply to call attention to the cyst and probably had nothing to do with the origin of the cyst itself. On the other hand, in a number of cases, it is probable that the injury somewhat preceded the development of the swelling and therefore very likely had some etiological relationship, probably by producing hemorrhage. In this case, an X-ray picture was made. The swelling, the pain, and the X-ray picture showing local destruction of bone, were in this case regarded as sufficient evidence upon which to base a diagnosis of sarcoma, and the limb was amputated about the middle of the thigh. We sawed both the femur and the tibia of the removed specimen longitudinally in two. The photograph shows that the femur is normal, but the upper part of the tibia is involved by a large cyst.

In regard to the diagnosis of bone cysts as I would view it from the standpoint of the pathologist, I may say that, given a clinical history of swelling, pain and an X-ray picture showing local destruction of bone, it would seem to me that in every case it would be the proper thing to cut down, and if there is found a cystic process, as in Dr. Clarke's case, to do no more than apply local treatment. If it is a solid tumor, it seems to me that a microscopic ex-

amination should be made, and if it is a giant-celled sarcoma or myeloma, the treatment should also consist of a local removal of the growth, whereas, if it is a true sarcoma, amputation of the limb would most probably be indicated.

L. W. Littig, Davenport.—I feel that when a member of this Society presents a particularly splendid piece of work, we ought to acknowledge it. And I rise simply to compliment Dr. Clarke on an operation, the results of which were certainly brilliant.

Dr. Clarke.—In regard to Dr. Ruth's case, it would be interesting to know how long the patient lived, or if he be still living. It has seemed to me, from a review of the literature, that the mortality is so high in cases even of amputation after sarcoma, that if I had a tumor of the leg, and there was the slightest doubt as to its nature, I would want the diagnosis of cyst made and an excision rather than amputation.

RECURRENT CORNEAL ULCERS*

LILY KINNIE, M. D., Dubuque

It seemed to me that recurrent corneal ulcers might be a desirable subject for a paper for the reason that ulcers of this kind are often so much more difficult and certainly more tiresome to deal with than those which are the direct result of foreign bodies and acute infections. At any rate, the latter either recover or go on to complete destruction of vision, if not of the eye-ball, within a given length of time, whereas the former improve and relapse, and recover and recur, perhaps during a period of years, thus taxing to the utmost the endurance of the physician as well as that of the patient.

That corneal ulcers occur and recur most frequently in old age is probably due to the fact that deficient nutrition and lowered vitality favor them, as is shown by the frequency with which they occur among the poorer classes.

They may be idiopathic, or we may find that they are the result of chronic catarrhal conditions, of lachrymal occlusions, or of lid troubles including trachoma, entropion or ectropion.

At one time malaria occupied a prominent place among the etiological factors, in fact, was considered almost the sole cause of dendriform ulcer, but at the present time anything which is capable of producing a neuro-trophic state is considered sufficient to produce this type.

The process of cellular infiltration may be rapid or slow, but in a large percentage of the cases, the duration of the disease is prolonged to weeks and even months by the process of suppuration.

Although all varieties of this condition origin-

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ate in an infiltration, the ulcers assume when once established, very different types as regards surface, extent, depth, position, surroundings and accompanying symptoms—all of which, when we come to consider the treatment, are of minor importance compared with the cause, which we should at once seek to discover as soon as the ulcer be found.

As regards idiopathic corneal ulcers, I do not believe they are common. I think that if we seek diligently we'll usually find a cause. However, we do find small marginal ulcers (Fuchs) in elderly individuals for which we can assign no reason. They are superficial and small, and heal rapidly under atropine and hot fomentations, but often recur within a few months. In these cases the patient's general condition should receive attention, the consideration of digestive disturbances and insufficient elimination being of especial importance.

In all cases of corneal ulcer and especially in those giving a history of former attacks, the tear ducts should be carefully examined, for in many cases we'll find that they are not doing their duty, and that the tears are standing in the eyes and causing irritation, thus rendering the cornea susceptible to external infections. Uthoff and Axenfield in 1896 discovered that the typical ulcer serpens was caused by the pneumococcus.

This ulcer usually occurs in elderly laboring men who are in a poor state of health and who are suffering from dacryocystitis, the regurgitating fluid being full of pneumococci, and if they receive the slightest injury, acute symptoms soon develop. Also the same condition is apt to occur in old cases of trachoma where the lids have irritated the eye-ball until the corneal epithelium has been destroyed, the abraded area thus forming an easy entrance to the cornea for any germs that may come in contact with the eye-ball. If, in these cases, we have an accompanying dacryocystitis we are bound to have recurrent ulcers.

We all know how frequently farmers who have been harvesting appear before us with bad purulent corneal inflammations. In a large number of these cases, dacryocystitis is present and the pneumococcus can be found in the spreading margins of the ulcer. If these cases recover useful vision, they are in danger of a recurrence unless healthy lachrymal channels are secured.

When the ulcerative process is due to entropion or ectropion the cause is easily detected. This is also true if the case is due to exophthalmic goitre, to paralysis of the trigeminie, etc.

After the cause of the ulcer has been determined it is necessary for us to decide whether

extension is to be expected or whether these are signs of healing. Ulcers with ragged overhanging edges usually progress while those in which there are no signs of irritation may remain at a standstill for days.

The presence of a deposit of pus in the anterior chamber occurs in some types of this condition. This deposit may fill nearly the whole anterior chamber, or it may be so small that it will almost escape our notice. In all cases when once the deposit occurs, it persists, unless evacuated by paracentesis, until the ulcer shows some signs of healing.

In considering what degree of regeneration is to be expected, we have to consider the age and condition of the patient and also external influences. Loss of corneal substance is not repaired by the drawing in of the surrounding parts, but is filled up by the formation of new tissue. Gradually the cavity diminishes in depth and extent by filling from the bottom, and finally the surface is covered by epithelium from the surrounding epithelial tissues. The haziness becomes more intense in proportion to the amount of new substance formed, but after a time the area becomes smaller than that of the preceding ulcer.

The dangers to be feared attendant upon corneal ulcers are perforations of the cornea and the opacities which even the most slight of them are apt to leave. If the suppurating process has reached Descemet's membrane, rupture may be the result of any increase in the intra-ocular pressure when the aqueous will be forced out and the iris and lens pressed against the cornea. If this takes place without too much violence, good results frequently follow and the ulcer heals rapidly.

If, on the other hand, prolapse of the iris occurs, or if as in some cases the opening does not close and a continual oozing of the aqueous is produced, the process is to be feared.

Perforations occurring at the periphery are dangerous, as purulent inflammations of the iris and choroid may set in after any slight trauma and result in destruction of the eye.

As regards opacities, in superficial ulcers, even though they be broad, a more complete regeneration and clearing may be expected than in deep ones which are much smaller. Ulcers which have reached Descemet's membrane always leave a thick opacity as do also those in which repair takes place with vascularization of the cornea. In enfeebled individuals the opacities left are more extensive than would be expected from the extent of ulceration.

The defects in vision which occur as results of

ulcers produced by trachoma are due not so much to the extent and depth of the opacity as they are due to the fact that regeneration is incomplete, a central depression being left which produces irregular astigmatism.

It is important to distinguish between an ulcer and a scar but this is not difficult as in corneal ulceration there will be present pain, photophobia and circum-corneal injection and the surface of the gray spot will have a rough appearance, whereas in the case of a scar there will be no symptoms of irritability and the surface of the gray spot will have a smooth, polished appearance.

The true extent of the ulcer can be determined by the use of oblique light or by the instillation of 2 per cent. sol. of fluorescein which will stain the abraded area a yellowish green which will enable us to easily differentiate it from the healthy corneal tissue.

Treatment.—The course to be followed in the way of local treatment of corneal ulcer in general is not difficult to decide upon as atropine which will protect the eye from iritis, dionin which will act as an analgesic and which will stimulate the nutrition of the cornea and hasten regeneration of epithelium, and antiseptics which will combat the suppurative process, are the remedies upon which we rely. If, however, the ulcer be peripheral, eserine instead of atropine is indicated in order to prevent prolapse of the iris in case perforation occurs.

Holocain must also be endorsed among the drugs of great value in the treatment of relapsing corneal inflammations.

Hot fomentations will be of service in cases which require stimulation. These may be applied for twenty minutes or half an hour every two hours.

Thorough curettement of the floor of the ulcer is of great value. This can be done very nicely with a wooden tooth-pick which has been sharpened to a fine point and immersed in a solution of bi-chloride 1-500.

Cauterization of the floor of the ulcer with carbolic acid is also excellent, care being taken to limit the application to the part affected. Iodine is also much used. C. C. Savage¹ advises the use of one drop of acetic acid in seven drops of water to be applied once daily by means of a tooth-pick wrapped with absorbent cotton, claiming that while it destroys germs it does not destroy the corneal tissue.

In severe cases the actual cautery is the most efficient of all treatment. It produces a clean surface and usually arrests the progress of the

suppurating process thus securing a condition most favorable to rapid healing.

When extensive hypopyon exists and the pus is thick and tenacious, as it usually is, it is better to evacuate by paracentesis or section of the cornea than to wait for absorption, as the accumulation of pus keeps up irritation which is liable to produce iritis or iridio-cyclitis, and thus seriously complicate the trouble.

A carefully fitting bandage which will keep the lids at rest and give support to the cornea and front of the eye-ball will often aid the healing process, but where the ulcer is due to conjunctival disease, or dacryocystitis, the bandage is contraindicated as it will prevent the escape of the secretion which in all of these cases should be frequently removed by irrigating with boric acid solution.

In considering the cases caused by trachoma, I would say that I believe the best treatment of the cause is the expressing of the trachomatous material by means of Knapp's or Prince's forceps: this being followed by applications of a 10 per cent. sol. of copper sulphate in glycerine.

During the two or three days immediately following the operation the eyes should be irrigated every two hours with boric acid solution. On the third or fourth day, depending on the amount of the reaction, the first application of the copper sulphate may be made by means of a cotton swab; care being taken to apply it thoroughly to all parts of the lids, especially to the cul de sac. Directly after the application the lids may be irrigated with distilled water. The applications may be made daily or every other day as indicated. I was taught and at one time believed that copper sulphate should not be used for lid troubles where ulcers of the cornea were present—that it was too much of an irritant. I no longer believe this. The presence of an ulcer in a case of trachoma now causes me to resort immediately to the use of the copper sulphate. I have in mind now a case who had had recurrent corneal ulcers for several years due to trachoma, and who seems to have entirely recovered under this treatment. She has had no trouble during the last two years but occasionally reports to me to have the lids examined. During the last few months treatment, she would report whenever she felt the slightest irritation, fearing that an ulcer was developing, and one application of copper sulphate would make her comfortable. Her mother had suffered from the same trouble and in old age was obliged to have one eye enucleated, for phthisis bulbi, while the other one was nearly blind owing to dense corneal opacities.

In all of these trachoma cases, we have to re-

1. A System of Ophthalmic Therapeutics. Wood, page 718.

member that it is a chronic disease and that it is only by persistent treatment that we can hope to avoid the corneal complications which are often so disastrous to vision.

The recurrent cases due to lachrymal obstruction are numerous. If it is impossible to secure drainage by probing and irrigations, the tear sac should be destroyed. Mattice² of the Axenfield Clinic examined one hundred cases from whom the tear sac had been removed and reported that the investigations showed conclusively that it was an important measure in preventing corneal infections as the pneumococci were reduced from 95 per cent. before to 43 per cent. after extirpation.

The new drug, ethylhydrocuprein, is supposed to be an absolute specific against the pneumococcus. It is claimed for it that in infections of the eye it will cause the pneumococci to disappear in two or three days. In infections of the tear sac which are not accompanied by stenosis, it can be used for irrigating in one per cent. solution. I have used this in several cases of corneal ulcer accompanied by dacryocystitis with excellent results.

As it is highly toxic and without great penetrative powers, it can not be used in closed cavities.

Aside from the pneumococcus there occur also in ulcers of the cornea the streptococcus, the staphylococcus, the diplococcus of *Morax Axenfield* and very rarely the influenza bacillus and yeast fungus, also Petit's diplococcus and Zur Neddius bacillus, but these have not been found with such regularity as to make them characteristic of a definite form of ulceration.

As regards the cases due to entropion and ectropion—they must of course be dealt with surgically if they are causing irritation to the extent of ulceration.

When the patient gives a history of malaria, attention must be given it.

The cases due to exophthalmic goitre range from a mild desquamating keratitis resulting in partial opacity of the cornea, to one of severe suppuration resulting in the loss of the eye. In the former type, which may recur, there is desiccation of the epithelium from exposure followed by secondary infection and ulceration. The local treatment embraces lotions, bandaging, curetting, cautery and tarsorrhaphy.

In general all cases suffering from recurrent corneal ulcers should be placed where they will have healthy surroundings. Good food, fresh air and exercise are important factors in the treatment, and strange to say, they are often the most

difficult factors for the physician to control unless the patient can have hospital care. It is often almost impossible to impress upon him the importance of a nutritious diet and it is certainly most annoying to be told that he is living on bread, tea and crackers, when in reality he requires milk, beefsteak and eggs.

As to fresh air—these patients are often inclined to remain in a darkened room whereas they need all the fresh air they can get, and a moderate amount of exercise.

Inquiry should always be made as to the condition of the alimentary tract. Faulty elimination and digestive disturbances should be corrected.

The urine and blood should always be examined.

Any errors of refraction should be corrected and the eyes should be protected from dust and bright light by the wearing of protection glasses.

Discussion

J. E. Reeder, Sioux City.—I wish to congratulate the essayist on the manner in which she has taken up the subject of Recurrent Corneal Ulcers. Just a word relative to those obstinate recurrent trachomatous ulcers.

I believe they are mostly mechanical in nature, by that I mean they are due to mechanical irritation of the upper tarsus. As you know in trachoma as in no other type of conjunctivitis do we see a primary involvement of the tarsus or an involvement coincident with the conjunctival infection. For this reason, it is only a question of time until we have a perverted action of the tarsi which instead of being a support to the lid and giving attachment to the musculature, becomes a menace in the way of a mechanical irritant to the cornea making it (the cornea) prone to ulceration. It is in just such cases I believe that medicinal treatment is useless to a very large degree but the proper removal of the tarsus will give permanent and immediate relief. Two cases coming under my observation recently had run the gamut so far as treatment was concerned. The tarsi were removed in both cases with splendid results. I believe it is an operation which should be considered more often than it is in those subacute and chronic trachomatous cases, that it not only relieves the tendency to these recurrent ulcers but it also does away with pannus and the ptosis which is always present to more or less degree in this abominable and perhaps most discouraging of ocular diseases which we as ophthalmologists have to treat.

F. G. Murphy, Mason City.—During the past year I have been using in trachoma cases a pencil of loaf sugar to rub and crush the granulations, and it does this very nicely. The sugar pencil is rough enough to cut off the exuberant granulations without injury to the conjunctiva and at the same time will suck up the blood not unlike a sponge and automatically preserve a much clearer field. It is sometimes neces-

2. Mattice (Klin. Monatsbl. f. Augenheilk., July, 1912.)

sary to repeat this treatment at intervals of a few weeks. My results with this treatment in trachoma have been so satisfying that I have discarded the compression forceps entirely

Dr. Lilly Kinnier, Dubuque.—In closing. The difficulty with many of us in attempting to work with some of these obstinate cases of recurring corneal ulcers is the fact that we do not have ready access to expert laboratory facilities and are not able to work out the cases from a general standpoint as thoroughly as we would like.

In answer to Dr. Murphy's question, I wish to say that clinically, as I stated in my paper, the cases accompanied by dacryocystitis in which I used the ethylhydro-cuprein, improved rapidly. However, I could not follow them from a bacteriological standpoint, from day to day as should be done, as we do not have the facilities for so doing.

HYDROCEPHALUS

H. M. McCLANAHAN, M. D., Omaha, Nebr.

Hydrocephalus or water on the brain means an increased amount of cerebro spinal fluid. This may be due to an increased secretion or deficient absorption. It is congenital and acquired. Congenital hydrocephalus may be caused by increased secretion from choroid plexuses or deficient absorption or intra-uterine meningitis or ependymitis. The congenital cases are of three types.

First.—Both internal and external with enormously enlarged head and bones widely separated. Every man doing large obstetrical practice will occasionally meet one of these cases. Many are still-born, owing to the size of the head.

Second.—Cases of internal hydrocephalus. Here the head may not be abnormally enlarged and these infants are born viable. In strictly internal hydrocephalus the ventricles are filled with fluid but there is no excess in the subarachnoid space. These cases can only occur as the result of some foetal disease or malformation whereby the communication between the ventricles and subarachnoids is closed. It is possible that some of these cases can be relieved if recognized early.

Third.—External hydrocephalus with the ventricles empty and collapsed from pressure. These are called the scaphocephalic or boat like form, because the increase in the size of the skull is chiefly the antero-posterior direction. In these cases the ventricles are almost obliterated and are often associated with other degenerative changes in the brain. In all of these classes, little or

nothing can be done. Those who do not die in infancy usually become either defective or idiots.

Acquired hydrocephalus usually develops in the first year of life, excepting those cases due to some inflammatory disease of the brain. Acquired hydrocephalus may also be internal or external. Usually, however, it is a combination. That is, there is an increased amount of fluid in the subarachnoid space and also in the ventricles. This is especially true of those cases occurring apparently spontaneously. Acquired hydrocephalus the result of some form of meningitis has a bad prognosis and if life is maintained there is usually not only impairment of some of the cranial nerves but of the mind as well. For these cases little or nothing can be done. I have had a case under observation for twelve years. This child was normal at birth, but at two and one-half years of age he had very severe scarlet fever, which was followed by acute hydrocephalus. The head grew at the rate of one inch a month for ten months. The boy is now thirteen years old and the head measures twenty-nine inches in circumference. He is not able to lift it from the pillow, he is blind, cannot stand or sit alone, but has very acute hearing and in some respects a remarkable memory. The boy, however, is as helpless as an infant. I have another similar case that followed cerebro meningitis.

There are cases of acquired hydrocephalus coming on gradually without any evidence of inflammatory trouble, for whom treatment is of some benefit. It is to this class of cases particularly that I wish to direct your attention. While some of this class of cases are associated with degenerative changes of the nerve cell of the brain, there are others where there is no primary degenerative change in the brain itself. Here the injury is due to the increased amount of fluid and in some of these cases the hyper secretions cease after a time, as is proven by regular measurements of the head. The excess of fluid is injurious to the brain in several ways. By simply stretching the nerve fibers, by pressure interfering with the development, and by squeezing out the blood supply to the brain. This naturally leads to atrophy of the brain substance and later a general sclerosis. If I am correct in believing that there are some cases of acquired hydrocephalus with normal brains and where the damage is the result of the excessive fluid, then a study of the early symptoms of hydrocephalus is important. Usually the first thing to attract the mother's attention is the increasing size of the head. The symptoms that usually attract our attention are as follows:

First.—The size of the head as compared to the normal child.

Second.—The rate of growth as noted by regular weekly measurements.

Third.—The globular form of the head in contrast-distinction to the square shaped rachitic head.

Fourth.—The peculiar fullness in the temporal region. The scaphocephalic or boat-like form of head where the increase of the size of the skull is principally in the antero-posterior direction occurs where the effusion is subarachnoid and not in the ventricle.

Fifth.—The full or bulging fontanelle. This is the most important symptom. Always present in infants under eleven months.

Sixth.—McEwin's sign. This is valuable in hydrocephalus as a complication of meningitis.

Seventh.—Greater distance between the eyes owing to the fluid distending the sutures formed by the frontal and ethmoid bones (Broca's sign.) There is often also a downward cast to the eye so that the upper sclera shows more prominently.

Lastly.—No doubt owing to pressure some of these infants are peculiarly irritable and restless. This going on for days and days without other evidence of illness is very important. It was this symptom that led the writer to begin a systematic study of these cases. I wish to cite three cases that have now been under observation long enough to draw reasonable conclusions.

Case 1.—Baby W. Date of examination August 14, 1914. Age, ten months; weight, 15 pounds; family history negative; does not sit up; has two teeth; never had convulsions; the patellar reflexes exaggerated; head circumference 18 inches; restless; often pounds its head; sleep disturbed; organs normal; fontanelle $1\frac{1}{2} \times 2$ inches in size; distinct bulging; lumbar puncture, 6 dr. clear fluid removed; fontanelle now soft and not bulging; lumbar fluid clear on puncture. October 13, 1914—weight, 17 pounds; child more comfortable in every way; second lumbar puncture, 4 dr. clear fluid. February 4, 1915—Weight, 20 pounds; fontanelle not bulging. April 28, 1915—Weight, 25 pounds; circumference of head, 19 inches; child talking, walking, and bowels regular. In addition to lumbar puncture this child received for a period of four months 8 gr. of Sodium Iodide daily, excepting that it was omitted about four days out of every three weeks. The relief in this case was at least striking and immediate. It may be said it would have recovered without this treatment, however, it is true it did recover promptly with this treatment.

Case 2.—Baby C. I was first called to see this child when ten months of age. The mother, a very intelligent woman, insisted that the head was growing too rapidly. This was the second child in the family, the older one being normal. Careful measure-

ments were made and it was kept under observation. At the end of three months the head had grown one-half inch in circumference. The fontanelle was also tense and bulging, and the eyes had a peculiar downward slant. Lumbar puncture was done and fluid came out under great pressure but the amount of the fluid was not recorded. The child began developing a strabismus and was operated upon by Dr. Gifford with benefit. He also discovered a slight degree of optic atrophy. The child remained under my observation for two years. During this time five lumbar punctures were done, all under pressure. It received the Sodium Iodide internally. However, during this time it developed normally, and during the last year the head grew but one-half inch in circumference. When I last saw it a year ago there was still a considerable degree of optic atrophy. In other respects the child was quite normal. I heard from the child in May, 1915. The sixth lumbar puncture had been done by a physician in Los Angeles. In the year since I saw it the mother informs me that the growth of the head has only been $\frac{1}{4}$ of an inch. She also writes that the child's general physical condition is excellent and that his mental development is fully up to that of children of his age.

Case 3.—This infant is now two years of age. Came under my observation at the age of two months. It was a difficult feeding case and its gain during the first year was very slow. At one year of age it was noticed that its head was unduly large, the circumference being eighteen and one-half inches. Measurements two weeks later, nineteen inches. Fontanelle was bulging. The child when thirteen months neither walked nor attempted to talk. Now at two years of age it is a backward child, can sit alone and hold up its head, but does not walk. During the past year a lumbar puncture has been done four times. In each case the fluid came out under pressure. However, within the year the head has only grown one-half inch, and now at two years of age the circumference is nineteen and one-half inches. The point I wish to make in this case is that while the child is below normal the rate of growth has been kept within normal limits. To assure ourselves that this was a case of both internal and external hydrocephalus Dr. Stokes injected Phenothalin into the lateral ventricle and two minutes later did a lumbar puncture when the fluid was colored, proving that the Foramina of Monroe and Majendie were previous. Dr. Patton has carefully examined the eye grounds and finds considerable degree of atrophy. This child is still under my care. There has been no growth in the circumference of the head for the past six months, it still being nineteen and one-half inches. However, the child is defective mentally and while it can sit alone it can neither stand nor walk. My object in presenting these cases is that I feel satisfied that there has been improvement in all. I believe the first two cases that are now practically normal would have gone on from bad to worse had it not been for treatment.

General Remarks on Treatment.—In our text books, hydrocephalus is described as nearly a hopeless condition. While this is true in many congenital cases and is probably always true in acquired hydrocephalus due to meningitis, I do not always think it is true in many cases where it develops in the first year of life in infants otherwise normal. In this class of cases where it is noticed that the head is growing too rapidly and where the symptoms mentioned in this paper are present, then I think we owe it to these infants to make an earnest effort to relieve them. Lumbar puncture is not a serious operation, can be done by the physician in general practice, and I think it should be done in these cases. It is not claimed that drawing off the fluid is curative, but it does lessen the pressure and in that way prevents the injury to the brain from the presence of the excessive fluid. The operation can be repeated as often as the fontanelle becomes tense. In my experience this will be from ten days to two weeks. My rule is to let the fluid flow until it comes drop by drop. I have learned from actual experience that in normal infants the drops will vary from thirty to forty a minute when using a large caliber hypodermatic needle. I always use this needle in these cases. We know from experience that in some cases the spinal fluid ceases to be formed in excess, because in some of these cases at the age of two or three years the head does not grow beyond the normal rate, but during this period the injury to the brain is irreparable. In addition to the lumbar puncture the internal use of iodides is certainly of value. I also use the Sodium Iodide with infants and push the remedy until there is free ptyalism. This will usually require from six to ten grains a day. It is a safe rule to intermit in the use of the remedy, giving it two weeks, then stopping a week and then repeating again.

In Conclusion.—If this treatment will save one case that would otherwise become defective it is well worthy of trial.

EYE SYMPTOMS AND THEIR VALUE IN CHRONIC SINUSITIS

JAMES E. REEDER, M. D., Sioux City

It is comparatively recent that our attention has been called to the importance of a thorough and careful study of eye symptoms and their interpretation relative to both acute and chronic sinusitis, particularly the chronic obscure type. In all of our sinus work, we are prone not to give the eye due consideration for symptoms

which might be present unless they are so grossly manifest that our attention is called to them by the patient himself.

In beginning cases of retrobulbar neuritis, if central vision is normal and the ophthalmoscopic examination is negative, that is as far as we go and at once pass the subject out of our minds as needing no more consideration or attention. This is just where we make our mistake. We should make a careful study of the color and form fields. I appreciate the fact that the taking of a field vision is no small task and one which consumes a large amount of time if taken properly, and worse than negative, hurriedly done.

The peripheral layers of the retina are not very sensitive, therefore record few impressions. This physiological condition alone prevents one from a hurried examination with the perimeter, but by taking time and making a careful study you may bring out a narrowing of the fields which a hurried up examination will not reveal.

Just a few words relative to the acute form. I will then take up the chronic type more in detail. As a rule it is a simple matter to diagnose acute sinusitis and at once institute proper treatment for the alleviation of the disease. Although the eye is not given much consideration in this type, nevertheless I believe that eye complications are present and overlooked, which of course subside immediately upon proper care of the sinus trouble.

It is in the chronic form we have to contend with the more serious eye complications. If you will stop a moment, reflect upon the anatomy of the skull and make a mental picture of the thin bony walls which separate the sinuses from the orbital cavity, also their blood supply and drainage, so intimately related, is it not to be wondered at we don't have more complications and manifestations of ocular diseases?

One should always keep this in mind and be on his guard. No doubt there is not one of you who can't recall a case of chronic sinus disease where the eye complications clinched the diagnosis.

The classifications as laid down by Cunningham are as follows:

Frontal sinusitis; periostitis and orbital cellulitis; exophthalmos; hyperemia of the disk; diplopia; haziness of the vitreous.

Maxillary sinus; blepharospasm; lacrymation; dacryocystitis; exophthalmus; hyperemia of the disk; amaurosis.

Ethmoiditis; mucocele; dacryocystitis; diplopia; exophthalmos; amaurosis.

Sphenoidal sinusitis; paralysis of the third

nerve and of the second division of the fifth, papillitis; retrobulbar neuritis; optic atrophy.

The involvement of the orbit generally takes place either indirectly as, through the blood or lymph channels or directly as a result of the necrosis of the orbit, exposing the orbital contents to the infection.

So intimately related are the posterior ethmoids and sphenoidal sinus to the orbit that necrosis of one means necrosis of the other.

The dural covering of the nerve not being continuous with the nerve, is lost into the periosteum of the orbit as the nerve enters the orbital canal.

As a result of this anatomical relation, the nerve is exposed or, if you please, laid bare to infection. Here is an unusual thing which occurs. It is not the periphery of the nerves which is exposed to the infection that suffers first, but the more central fibers or the papillomacular region. There are a number of theories as to why this occurs, one is, that it is this bundle of nerves which is more delicate and highly organized that succumb to the infection first. I would suggest it is due to the fact that the macular region has less blood supply than any other part of the retina, hence the area cannot get sufficient antibodies as it were to neutralize the toxins; as result of this, the macular region is the part to suffer first.

In those cases where there is sudden and rapid diminution of vision unilateral in type, one should always give the sinuses serious consideration, particularly to posterior ethmoids and sphenoid.

The fact that a patient may not have any diminution in vision is no reason one should assume he has a normal field.

I have the following cases to report:

Case 1.—Male C. B.; age 15; occupation, school. Present complaint, mother states he is subnormal in his school work and does not progress any in his class, frequently plays truant and is gone for several days. Inspection shows enlarged tonsils and adenoids, a discharge running down posterior pharyngeal wall, a marked deflection of the septum to the right, completely obliterating the middle turbinate from view. Vision R. E. 20-40, L. E. 20-20. Fundus L. E. negative. The R. E. fundus shows the veins three to four times as large as the arteries and very dark in color and somewhat tortuous. Vision not improved by lenses. The tonsils and adenoids were removed, three weeks later a submucous resection was performed with a fracture of the middle turbinate on the right side with the intention of giving drainage to the sinuses on that side. At the end of six weeks the vision was 20-20 both eyes, the veins in the right eye had assumed a normal

status and the patient's general condition was very much improved.

Case 2.—Mrs. G. G., age 45; occupation housewife; history, patient states for past year has had a nasal discharge with frequent attacks of headache, occipital in character, and periods of indisposition. Has always enjoyed good health up until one year ago when she developed her present trouble.

Inspection shows pus coming down over the posterior end of the mid. turbinate right side. An X-ray shows both the anterior and posterior ethmoid cells involved.

But the interesting feature was the field of vision. The left was normal but the right shows both peripheral contraction and enlargement of the blind spot. Upon these findings the middle turbinate was at once sacrificed and the ethmoid cells curretted. At present, ten days after the operation, the headache has cleared up and there is a general systemic improvement, but there is no change in the field of vision.

I appreciate the fact that the report of the preceding cases is no criterion to go by, but nevertheless it brings forth the following to consider. All sinus cases should receive study from the standpoint of ophthalmology. The eye should be considered carefully whether or not there are gross manifestations of involvement of the optic nerve. If there is any evidence at all one should not hesitate in being radical with his procedure in the care of the diseased sinuses.

THE TREATMENT OF RETENTION OF THE URINE*

JENNINGS CRAWFORD, M. D., Cedar Rapids

In selecting this subject I felt that it was a subject of interest to the general practitioner, a condition that he frequently meets with and one which causes him no little anxiety.

As a condition it is easily diagnosed by percussion or palpation over the hypogastrium, however the patient usually makes the diagnosis.

The underlying cause of the retention may not be so simple a matter to diagnose. It is the purpose of this paper not to discuss the conditions causing retention or to discuss the methods of diagnosis of such conditions, as to impress on the medical practitioner the simple means of immediate relief of retention of the urine.

It is needless to say that retention, especially when it is acute, is a most distressing affair for the patient; it is not an infrequent condition and not infrequently is the immediate relief unsuccessful.

Immediate relief is usually obtained by catheterization of the urethra; although this is not al-

*Read before the Iowa Union Medical Society, Iowa City, July 13, 1915.

ways possible as the following three cases illustrate.

In 1912 I saw a patient with an impermeable stricture of the bulbous urethra. During the previous twelve years this man had had a variety of treatments for this stricture, including numerous dilations and two treatments by divulsion under ether. One year previous he had been operated upon unsuccessfully, and following which a second operation was performed, the operator opening both perineally and suprapubically. Since the last operation a perineal fistula had persisted.

It was impossible to pass filiforms through the urethra since the filiform always passed out through the sinus just anterior to the bulb. A urethroscope was used but no opening through the stricture could be seen or found with a probe. The patient could not pass a drop of urine, but in spite of that fact refused operative interference.

However the next day the patient consented to operation. Under ether the sinus was opened on a sound and the stricture found to occupy the entire bulbous urethra. No opening could be found in the stricture. I then cut through this hard fibrous lump about $\frac{3}{4}$ inches deep; there was no bleeding. A permanent catheter 22 F. soft rubber, was left in the urethra and the wound closed. Two weeks later the catheter was removed. A small sinus persisted for a month. The patient is now entirely well.

In the past three years a 25 F. sound has been introduced at intervals of three to six months.

For the first 24 hours after this operation this patient secreted but three ounces of urine and appeared uremic. By repeated use of normal saline given hypodermatically and free hydrocatharsis obtained by Epsom Salt solution injections, the patient passed this condition, and in a few days was secreting two or three quarts of urine per 24 hours.

This only brings up the subject of the grave danger a patient approaches when there is any kind of an obstruction to the urethra; permanent injury to the kidneys is certainly the result.

I will confess that tapping the bladder did not occur to me the first night I saw this patient, and this is the point I wish to emphasize. A full bladder can always be tapped with a trochar; one of the trochars used for lumbar puncture makes an admirable instrument for tapping the bladder.

In allowing a bladder to become distended and remain so for any length of time, there is always the risk of extravasation of the urine with the consequent result of sloughing. This is especially true in children where retention is due to phimosis or following circumcision. If not relieved there is extensive sloughing of the soft parts. A small catheter can be introduced into the bladder, even in babies, and there is no excuse for allowing the condition to continue.

Again there is always the danger of infection

in a prolonged retention. We know that there may often be pyogenic bacteria in the bladder but unless there is some predisposing factor there is no cystitis; retention is a sufficient factor to produce cystitis.

"Melchoir of Paris in 1895 (Kelly's Gyn. Surg.) found in numerous experiments, after injection of cultures of various pyogenic organisms and ligation of urethra to cause retention, that he was always able to produce a cystitis in animals, the urine containing blood, pus cells and many bacteria. A cystitis produced in this way clears up in a few days. This explains the frequent occurrence of cystitis in old men with enlarged prostate glands and also in women who are suffering from prolapse of the uterus dragging down the bladder; in both cases there is always a certain amount of residual urine in the bladder."

The second case was a carpenter referred to me by Dr. Raymer in 1913. This man had fallen from a building, straddle of a two-by-four. The accident was followed by profuse bleeding from the urethra which shortly stopped. The patient had no injury to external examination, yet was unable to void. All attempt to pass instruments were unsuccessful, since they apparently passed entirely out of the urethra into the ischio-rectal space at the posterior part of the bulbous urethra.

The patient refused operation for 48 hours, and during this interval the bladder was emptied six times by the use of a trochar. This was done without anesthesia of any kind and was no more painful than the ordinary hypodermic needle.

The operation consisted in opening the urethra at the peno-scrotal junction; the urethra was held apart and the fourth finger inserted into the urethra. At the bulbo-membranous junction the urethra seemed to be entirely torn off. A little farther in, the distal end of the torn edge could be felt. A grooved director was passed into the bladder over the finger. A 22 F. soft rubber catheter was then easily passed through the incision into the bladder, the end of the catheter was then drawn up through the meatus by a clamp inserted in the penis to the point of incision. Wound was closed. The catheter was left in the urethra ten days. When removed patient voided with ease. The urethra has remained well open in the subsequent two years.

Here was a case with the urethra crushed open making easy avenue for extravasation to start, and had the bladder not been emptied frequently and thus preventing over-distention of the bladder, extravasation would have certainly occurred.

A third case in which I was unable to pass a catheter was a case of retention in a man age 59 years.

This man had had acute retention the day previous; all attempts at catheterization were unsuccessful and after two hours of continuous attempts his doctor gave the patient a general anesthetic and suc-

ceeded in the catheterization. A trochar certainly should have been used at that time. The next morning I saw this patient. My attempts at catheterization were unsuccessful. This man had previously been treated for stricture. He had also a hypertrophied prostate. Prostatectomy as an emergency operation for relief of acute retention is not ordinarily resorted to. However in this case I felt it was justified, and under ether made a perineal exposure, dilated the stricture and enucleated the hypertrophied prostate. The patient left the hospital on the twenty-first day, entirely healed; the urethra admitting a 27 F. sound easily.

It is sometimes advisable in cases of retention due to prostatic obstruction, to fasten the catheter in the urethra by means of adhesive plaster.

In 1911 a man 77 years old was brought to St. Luke's Hospital in a delirious condition. He was passing but a few drops of urine at a time. Daily his temperature went up to 104° accompanied with chills and sweating. He was catheterized twice daily but showed no improvement.

Ten days later I saw this patient and introduced a permanent catheter into the bladder. The bladder was then emptied per catheter every three hours. With forced hydrotherapy, daily bladder irrigations, of 1-10,000 silver nitrate the temperature decreased and the chills and sweating disappeared. In two weeks he was up in a chair.

This patient had a hypertrophied prostate, a small calculus in the bladder, double pyelitis and cystitis. However his extreme condition was mainly due to retention. Two weeks later he left the hospital wearing a catheter and refusing operation. One year later he wrote, stating, "I haven't used the catheter for five months and feel in excellent health."

A permanent catheter in cases of this kind is more satisfactory than frequent catheterization, and much better borne. It is a much more simple procedure than making a perineal or suprapubic drainage.

In November, 1914, I saw a man age 75 with complete retention due to a fibrous condition of the prostate. He was catheterizing himself. He had had a punch operation at one of the large clinics in this country four months before. However, the result was temporary, lasting but four weeks. Here was a man with complete retention, infection, and yet felt fairly well, due entirely to the fact that he regularly catheterized the bladder.

With some slight trepidation I used a urethroscopic punch in this case under local anesthesia. Three large "bites" were taken in the lateral and median portions of the prostatic ring. Slight bleeding followed which was controlled by irrigation through a permanent two-way catheter; after 48 hours the catheter was removed. The patient left the hospital on the seventh day and has been in continued good health ever since, voiding easily and getting up once at night.

Among other obstructive or mechanical causes of retention is retention caused by the bladder being filled with blood clot. This condition is usually associated with profuse bleeding from papillomatous growths in the bladder wall. By the use of a large tube and a small amount of suction applied, the clot can be entirely removed.

We frequently see retention in patients following operations; the cause of which is usually attributed to bladder spasm. Catheterization of these cases should not be resorted to until other means have failed. If the operation does not contraindicate; the effects of a soap suds enema frequently stimulates micturition; or the gentle massage of the prostate, or applying warm cloths to the hypogastrium. Failing in these or other methods, catheterization should be carried out under strict aseptic technique that the patient may not be required to also endure a cystitis during convalescence.

Retention due purely to inflammatory causes is more often found in patients suffering from gonorrhœal infections.

Retention in these cases I have attributed to spasm due to the combined cystitis and prostatitis. There is also sometimes the mechanical obstruction of a prostatic abscess formation.

Three years ago I saw a man, age 35, who had contracted gonorrhœa two weeks previous to my first visit. The patient had not voided for 24 hours and had had no relief in spite of five hypodermic injections in his arm during the 24 hours by his physician. The patient was easily catheterized with a coude catheter 13 F. and relieved of 36 ounces of urine. I catheterized this patient four times per 24 hours for the following seven days, at the end of which time he began to void. I frequently examined the prostate in this case but found no marked swelling or bulging. The bladder was irrigated daily for the following four weeks, at the end of which time no pus or bacteria were to be found in the urine.

In this case and a similar one which occurred a few weeks later, the utmost caution was used to prevent trauma of the urethra or bladder during catheterization. A small silk coude catheter was used with plenty of sterile paraffin oil injected as a lubricant. After each catheterization the bladder was lavaged with silver nitrate solution, 1-15,000. At no time did either of these patients complain of the use of the catheter.

In fact, with rare exceptions, all cases of retention can be catheterized if the proper catheter is selected and the utmost gentleness applied. However if the case seems impossible to catheterize it is certainly advisable to desist before much bleeding occurs or severe damage is done to the urethra. The bladder can be tapped suprapubically. In the interim before the bladder is

again full the edema and congestion of the urethra may have had time to subside and catheterization may be an easy matter.

In this paper I have tried to illustrate a few of the ultimate and permanent cures for retention; and in its briefness I have not even enumerated the many varieties of retention, if one may speak of retention as a condition, for it is only a symptom of a condition. However it is my purpose to impress on the man who is called to see a case suffering with retention of urine, that it is not such a desperate condition if properly treated. Hasty plunges into the urethra with metal-instruments usually fail, whereas a deliberate attempt with a small silk catheter well lubricated with sterile oil, rarely fails.

The permanent relief of retention may be a complicated matter, but certainly the immediate or temporary relief of retention is in the hands of every man.

THE HOROWITZ-BEEBE TREATMENT FOR CANCER

A new "treatment for inoperable cancer" has, during the last two months, been widely acclaimed in the lay press and in some medical journals. The first public announcement of this treatment appears to have been published in the New York Times, Feb. 19, 1915, and was to the effect that a "new cancer serum" (called by the newspapers "autolysin") had been devised at the General Memorial Hospital in New York City and used with curative effect in hopeless cases in the last stages of the disease. As the General Memorial Hospital is a research institution associated with the Cornell University Medical College, the report received more attention than it might otherwise have achieved. March 6, 1915, a statement, signed "for the Medical Board of the General Memorial Hospital" by James Ewing, W. B. Coley, Richard Weil and S. P. Beebe, appeared in several medical journals. It said:

"While it is impossible to discuss in detail every error in the report, it is possible to deny categorically the chief assertions made in the article."

Among the other statements made in this denial is the following:

"We know of nothing that seems likely to prove a constitutional remedy for advanced cancer. All we hope to do at the General Memorial Hospital is in the line of painstaking study of different forms of cancer, the persistent application of well attested remedies and palliatives in the disease, and the investigation of such other methods as present a sound theoretical basis always with strict regard to the interests of the individual patient."

Nevertheless, in spite of the statement of this committee, there appeared shortly afterward an article signed by S. P. Beebe, entitled "A Treatment for Inoperable Cancer—A Preliminary Report." The other members of the board of the Memorial Hospital do not appear as co-authors.

As a scientific contribution, this article is a remarkable statement, especially when it is kept in

mind that the author was connected as professor of experimental therapeutics with a leading medical school. The author describes the introduction of the system of treatment by "Alexander Horowitz, Ph. D., an Austrian biologist and chemist," and its trial at the General Memorial Hospital. Despite the previous reference to "sound theoretical basis," there is no statement made of preliminary investigations of the action of this therapeutic agent or its multitudinous components on anything except human patients, although coincident experiments with sarcoma rats are mentioned. The composition of the preparation is not disclosed as to quantities, but it is said to be made from some twelve different herbs. As one critic has said, apparently the only ingredient overlooked in the preparation of the new remedy was a rabbit's foot.

The cases reported number sixteen. Three were superficial skin cancers, which are said to have been completely healed under the influence of the poultice, as, of course, they might well have done under any escharotic application. In only one of the cases are any data given as to the length of time the patient was under observation—but evidently this is far too brief for any one to draw conclusions as to results. Another group of seven "hopelessly incurable and inoperable" cases is next mentioned. Of these, five patients died under treatment and the other two refused to continue it, although improvement is said to have occurred in three of the seven. The remaining six cases were treated by Beebe and J. Wallace Beveridge in another hospital by injections of the extract into the tumor tissue, with the production of necrosis and diminution in size of the tumors in some cases, although one of these patients died.

Aside from this very unpromising report, apparently all that has been published in any medical journal are stereotyped excerpts from it which have appeared simultaneously as abstracts in several medical journals. If this were all that had been published, there would probably not be the prevailing excitement over the subject. The greatest marvel, perhaps, was why this report was published at all, dealing as it does with only sixteen cases, under only a short period of observation, with results that are apparently no better than could be secured by applying an arsenic paste or injecting a solution of any escharotic substance into the tumors. What is there of scientific interest or therapeutic advance in such a procedure? Why should any person with critical judgment or scientific training of the slightest degree rush into print with a cancer treatment of but a few weeks' or months' trial, and founded on nothing more theoretically sound or inspiring than a Chinese materia medica? Why, too, asks The Journal of the American Medical Association, should the lay press be furnished with literary articles on the subject by some of those engaged in promulgating this treatment, and why should these articles be embellished with exquisite half-tone reproductions of the features of the experimenters?

The status of the Horowitz-Beebe method of treatment of cancer can be estimated by applying an average knowledge of pharmacology, sociology, psychology and, above all, we fear, economics.

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RELATION OF THE MEDICAL PRACTITIONER TO MEDICAL LITERATURE

[Lancet-Clinic Cincinnati, August 7, 1915]

Dr. Bayard Holmes, in a leading editorial in the Lancet-Clinic, raises the question if the medical profession has improved in culture in the last 200 years; if the profession, as a body, are closer students of medical literature now than formerly, and comes to the conclusion that, relatively, there is less interest in medical literature than 200 years ago. Holmes appears to agree with other observers that the medical profession falls behind other callings not included in the so-called learned profession in its interest in the literature of its own profession. It is contended that the general farmer, stock raiser and horticulturist reads the farm papers more closely than the doctor reads his medical journals; that of the learned professions, the lawyer and theologian are far closer students and better informed than the doctor.

We find ourselves inclined to admit the truth of the statements of Dr. Holmes, at least in a relative sense, and considering the wide range of knowledge that medicine must draw from: its relation to chemistry, physics and biology; its relation to history, evolution and research. There is probably no line of activity in which a broad culture and accurate scholarship is more essential than in medicine, and it is no doubt a source of surprise to the best informed members of most communities that the medical practitioner shows so little intellectual culture, considering the vast storehouse of knowledge at his hand, and it is little wonder that the average layman should

suppose that the practice of medicine consists more or less of the mysterious and empirical that can be called upon in the treatment and cure of diseases marked by the presence of certain symptoms. This impression gains strength when the layman observes the ill kept offices, the unopened medical journals and the few books covered with dust, showing evidence of being rarely, if ever, consulted.

We trust that the time is not far distant when the reflections made by Dr. Holmes and the observations noted in these editorial remarks will be among the things of the past. There is abundant evidence of this to be seen on every hand, that the long rows of bottles containing all sorts of curative drugs, and emitting most offensive odors, are giving place to books and journals that bear the evidence of critical study and examination.

MORE IN RELATION TO THE HOSPITAL PROBLEM

At the last session of the Iowa Legislature at least two bills were introduced looking to some form of public supervision of private or quasi private hospitals. Some little interest was excited on the subject but not enough to lead to any definite action. This may be taken as the beginning of an open expression of feeling that many hospitals were not performing their full duty to the public and are not doing what they assumed to be doing. It has generally been claimed that a certain class of private and church hospitals are beyond the reach of criticism and that physicians and surgeons doing work in these hospitals must accept the privileges granted without question. We have heard it said that loyalty to the hospital was essential to being permitted to work there. We have tried diligently to determine what was meant but the range of possible interpretation seemed so broad that we gave it up. We have often thought of Charles Reed's stories written many years ago about private insane hospitals in England and that there was a similarity between the insane hospitals of his day and many private general hospitals of today. Something of the kind seems to be germinating in the minds of the public. If there is any fault it does not lie with the hospital alone but with the profession, probably in equal degree. The fundamental difficulty lies in the commercialism of the day which does not seem to overlook any one from the gambler to the pulpit. We know of one city where a curious system of medicine flourishes to an unprecedented degree in open violation of law. We have seen in the lay press of this city arguments

and we presume petitions requesting the U. S. Government to develop to the fullest possible degree the capacity of a certain government war munitions, supply arsenal. We are wondering if this community fears the war department may make a mistake in determining the kind of material needed and where it can be most economically made; if it is a real patriotic spirit that prevails, or if it is a commercial spirit that exists. Taken in connection with the support and encouragement of the production of unlawful practitioners of the healing art who came into the most sacred relations of life for purely commercial purposes, we cannot avoid the feeling that it is neither patriotism nor public welfare that govern the business public but gold.

In another state we are informed that the public prosecutor ordered a grand jury investigation of certain hospitals. This grand jury found so many grave and dangerous practices within the walls of these institutions that certain legislative recommendations were made to protect the public who might need the ministrations of these hospitals. Strange as it may seem a bishop of one church and the hospital superintendent of another church hastened to apologize or even deny in a general way the plain and direct evidence upon which the grand jury acted. We are again reminded of the writings of Charles Reed of many years ago in relation to English private insane hospitals and the burst of indignation from interested persons that followed these revelations. Nevertheless an indignant public suppressed many of these institutions and placed the others under public supervision.

This brings us squarely to the issue that our own private and quasi-private hospitals must sooner or later be brought under public supervision notwithstanding the cry of "politics," which is our favorite argument when it is proposed to bring public welfare utilities under public control. But the spirit is abroad and cannot be suppressed by such flimsy arguments as the demoralizing influence of "politics." Hospitals are too closely related to welfare work to be allowed to run independent of public notice. We think it can be easily shown that all hospitals ought to be public institutions in a certain sense. Private hospitals are to a certain extent a public menace in that the expense of management and the uncertainty of income often leads to inferior service and possibly to questionable operations. Church hospitals are so thoroughly entrenched in the sympathies of the public that they will be for many years important factors in hospital service, but there should be proper public supervision and they should receive definite public support. A

plan of hospital construction and management which is most satisfactory is the building of hospitals either by private gift or public taxation and maintenance by taxation in the way public libraries are supported. The laws of Iowa permit building of hospitals by voting a tax by the county and permit cities to vote a tax to support hospitals already existing. If this does not apply to church hospitals it should be made to apply in exchange for public supervision. Let us cite an example. A liberal minded and public spirited citizen in the city of Ames proposes to give a sufficient sum of money to build a modern hospital. It now should be the duty of the city of Ames to vote a three mill tax for the support of the hospital and admit all who need hospital treatment and charge a fee according to the ability of the patient to pay up to a maximum rate, and not compel the hospital to maintain a precarious existence by begging and raising money by various ways and means which presumes a cheap and inefficient service which is never satisfactory and makes the institution merely a specialized boarding house for sick people instead of a real hospital.

**REPORT OF DR. GROVER W. WENDE, PRESIDENT OF THE HOUSE OF DELEGATES
NEW YORK STATE MEDICAL SOCIETY**

We publish two excerpts from the address of the President of the New York State Medical Society to the House of Delegates, which are of common interest to all state medical societies, as they relate to matters of business which we cannot ignore.

The report of treasurer shows that for the fiscal year ending December 31, 1914, the Society paid out \$6,522.50 for malpractice defense—27 per cent. of the income for the same period; \$5,763.13 for the Journal—24 per cent. of the income, and \$6,380.76 for the directory—26 per cent. of the last annual income.

Workmen's Compensation.—Realizing the monetary value to industry of human life and health the state, after many years of agitation and investigation enacted labor laws in 1910 and later, to govern conditions in the industrial world in an effort to conserve the health, improve the sanitation and promote the general welfare of the laboring classes. One of these salutary laws, the workmen's compensation act, became operative July 1, 1914. Notwithstanding the publicity given it, the medical profession generally was totally unprepared for the revolutionary effects of its enactment.

The relation of the profession to the application of this compensation law is extremely close for every case of disability coming under its provision must of necessity have the care of some physician.

From the doctor's viewpoint the questions of remuneration under the law by the commission and of the fee schedules for service rendered as offered by the liability companies, have been great bones of contention in the several counties. The real objection is that the fee-bill is inelastic, that in spite of the publication of minimum and maximum fees, the minimum really becomes the maximum. A fair interpretation of the law implies that the amount paid for the service rendered should be comparable to the income of the injured person; that the doctor should charge no more than if the patient himself paid the bill instead of the employer, the insurance company or the state; and that it is not intended that the law shall represent a contract of flat fees for everybody alike.

It was found that the members of the Society were being induced to contract with the liability companies on the basis of a flat rate fee-bill with a very low minimum. In conformity with one of its high purposes, to-wit—"to protect them (the members) from imposition," the Society took up the matter of a fee-bill with the representatives of the liability insurance companies. The result was reported in the Journal for the month of August, 1914, by the special committee designated to investigate and to arrange a fee-bill. To the carefully prepared report of this committee your thoughtful consideration is directed. To its recommendation your approval should be given.

Considering the vast importance of this and like economic questions; noting the present inertia of the membership and its unjust criticism of those who have failed to stem the tide, it is imperative that some other way of handling such questions should be adopted than by cursory consideration and hasty action of committees appointed in an emergency. I therefore recommend that a standing committee consisting of five (5) members be created, to be known as the Committee on Economics that shall be on the watch for the appearance of any movement affecting the economic life of the membership, that shall at once begin an investigation when such a movement is discovered and that shall report its findings and make recommendations at least annually to the House of Delegates.

COMPLETE LIST OF THE NEW MEN ASSOCIATED WITH THE WORK IN THE COLLEGE OF MEDICINE DURING THE LAST SUMMER

Albert H. Beifeld, B. A., M. D., Head of Department of Pediatrics and Contagious Diseases.

Arthur Steindler, M. D., Resident Orthopedic Surgeon.

Mark F. Boyd, M. S., M. D., C. P. H., Epidemiologist and Assistant Professor in Charge of Preventive Medicine.

N. G. Alcock, M. S., M. D., Resident Genito-Urinary Surgeon.

L. W. Harding, M. D., Anesthetist to University

Hospital and Instructor in Anesthesia in the College of Medicine.

Bundy Allen, M. D., Director of Roentgen Laboratory.

F. J. Rohner, M. D., Instructor in Internal Medicine.

W. McClure, B. S., M. D., Instructor in Pediatrics.

D. H. Osborn, M. S., M. D., Instructor in Gynecology and Obstetrics.

Jack J. Hinman, Jr., A. B., M. S., Senior Water Bacteriologist and Chemist.

G. C. Albright, M. S., M. D., Instructor in Ophthalmology, Oto-Laryngology and Oral Surgery.

R. A. Fenton, B. Di., D. D. S., Dental Surgeon to University Hospital.

E. V. Bennett, B. A., M. D., Pathologist to the Department of Ophthalmology, Oto-Laryngology and Oral Surgery.

Peter Masucci, S. B., Junior Bacteriologist.

Gharrett Jordan, S. B., Junior Water Bacteriologist and Chemist.

Karl Kullman, B. S., Assistant in Chemistry.

Stewart D. Marquis, A. B., Instructor in Chemistry.

E. E. Hobby, B. A., M. D., Instructor in Department of Anatomy, Histology and Embryology.

I. W. Leighton, M. D., Instructor in Department of Anatomy, Histology and Embryology.

It is expected that Dr. C. P. Howard will return from the war zone and resume his duties at the University early in February.

ALCOHOL IN THE EUROPEAN ARMIES

The European war, subjecting millions of men to the irregularities and exposures of life in field and camp, has naturally revived interest in and furnished new material for the discussion of many old problems. Among these problems is that connected with the use of alcohol by the soldiers. The time has passed when alcoholic liquors are to be regarded as inseparable from warfare and essential for military activities. Efficiency is now the prime consideration. Since the last great war, scientific research has greatly increased our knowledge of the effects of alcohol on the human body. While the physiologist has not as yet spoken the last word on this subject, the overwhelming preponderance of scientific evidence is in favor of the proposition that the use of alcohol, in any amounts, large or small, tends to impair muscular co-ordination, to dull the special senses, to retard muscular and nervous reactions and mental processes, and to reduce efficiency in any work requiring rapid and accurate mental or physical effort. The question still open to discussion is whether, in times of unusual exposure, strain and exertion, the temporarily stimulating effects of alcohol are sufficiently valuable to compensate for its undesirable results. Evidently the military authorities of Europe think so, or are still influenced by custom or tradition, since in each army the regulation ration of alcohol is still provided. In the Eng-

lish army, 2½ ounces of rum are issued to each man twice a week. For men in the trenches, this allowance is increased to 3 ounces twice a week under ordinary weather conditions and to 2½ ounces daily in very bad weather, making a minimum of 5 ounces a week and a maximum of 17½ ounces. The regular ration of 2½ ounces is estimated to contain 25.5 grams of alcohol. The French soldier receives daily 50 grams of rum containing 20 grams of alcohol. The German soldier is allowed 1,793 grams of beer and 20 grams of brandy a day. The beer, which is of the ordinary lager variety, has a low alcohol content of only about 3.5 per cent., but this quantity would amount to a total of 70.7 grams of actual alcohol a day. Austrian soldiers receive each day 0.5 liter of wine, equivalent to 40 grams of alcohol. The physiological effects of alcohol on military efficiency would probably not be so clearly apparent in the army as in the navy. The modern battleship, cruiser and submarine have become marvels of mechanical complexity and delicacy. The soldier in the trenches might take the maximum German ration of 70 grams of alcohol a day without impairing his ability to handle his rifle or manipulate a machine gun. Whether the members of the aviation corps, the artillerymen charged with handling the heavy guns, or the signal men, on whose quickness and accuracy of vision much might depend, could maintain the highest efficiency on a daily allowance of alcohol remains to be proved. There is, in the opinion of The Journal of the American Medical Association, abundant testimony on the part of naval experts to show that alcohol diminishes the accuracy of the gun pointer on the battleship and so reduces the number of probable hits. "Dutch courage" has heretofore been regarded as an indispensable equipment of warfare, and alcohol has been looked on as the ally rather than the enemy of the fighting man; but the present war will reverse the opinion of the civilized world on a good many questions, and it is possible that the indispensability of alcohol in the army may be one of them.

A MEDICAL CENTER FOR NEW YORK

"A project has been entered into between Columbia University and Presbyterian Hospital, of New York City, for the union of the two institutions through which the medical, surgical and pathological resources of the hospital should be placed at the disposition of the medical school of the university. This is to be done with a view of placing New York in the class with Paris, Vienna and Berlin as one of the greatest medical centers of the world for teaching and research. For this purpose an option has been secured on a site at Washington Heights, between Broadway and Ft. Washington Avenue, 165th to 168th streets, which will furnish not only enough ground for the needs of today but for all probable expansion. For maturing these plans, the university alone must raise a total fund of no less than \$7,500,000 in addition to the property furnished by the hospital."—(Virginia Medical Semi-Monthly.)

FEEDING PER RECTUM.

Referring to feeding per rectum, Eberhard makes some important suggestions in relation to efficient methods of introducing nutrient material into the system through the bowel; his technique is, first, to cleanse the rectum and colon with warm salt solution. Elevate the head of the bed and after warming the nutriment to body heat, it is placed in a warm bath at 110 to 115 F. (The author depicts his own reservoir.) The flow of the liquid is one drop per second.

It requires about one to one and a half hours for ten ounces of milk and two raw eggs to flow into the rectum. The following enemata are recommended:

Whites of three eggs.....	90	calories
Peptonized milk	174	"
Table salt	0	"
Warm milk, 9 ounces.....	174	"
Yellow of two eggs.....	122	"
Grape sugar, 1 dram.....	14	"
Table salt, ½ dram.....	0	"
Warm milk, 9 ounces.....	174	"
Two raw eggs.....	140	"
Table salt	0	"
Essence of pepsin, 1 dram.....	0	"

The last-named formula is the best, and is prepared as follows: First heat the milk to about 98° to 100° F., then beat the eggs, salt and pepsin together, add the milk, and beat again until the whole is of such consistency that it drops easily.

DR. JAMES TAGGART PRIESTLEY

A FESTSCHRIFT

(Editorial, Journal American Medical Association)
October 30, 1915

In commemoration of his forty years of practice, Dr. James Taggart Priestley, of Des Moines, has been honored by the issuance of a special number of the *Journal of the Iowa State Medical Society*, styled a "Festschrift." It has been done under the auspices of the Medical Library Club of Des Moines. Dr. Priestley well deserves this honor. As is said editorially in the Iowa Journal, "the man who can live a generation or more in the sharpest competition, and retain the affection of his associates, is indeed entitled to expressions of the highest regard as distinctly his own. It is delightful to feel that honors gained by manly struggles for the rightness of things may come at a time of mental and physical well-being, and not after the recipient has passed to a state of indifference." Dr. W. L. Bierring gives a brief historical sketch of Dr. Priestley's illustrious great-great grandfather, Joseph Priestley, the discoverer of oxygen, who, it will be remembered, spent the last ten years of his life at Northumberland, Pa., continuing the work in science which he had carried on in his native England. Dr. Priest-

ley has well maintained the traditions of his family as a scientist, a man of character and strong individuality, and a leader in his sphere of action. In his long career as a practitioner in Des Moines, his impress has been for the uplift of the science and art of medicine, and for the betterment of fraternal relations in the profession itself. This number of the Iowa State Society Journal is a credit to those who conceived, as well as to those who carried out, the idea—and to the State Society itself. It is splendid from a mechanical standpoint, and decidedly creditable in its contents.

CONTROLLING CANCER IN ENGLAND.

Portsmouth was the first municipality in England to undertake a public educational campaign for the control of cancer and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the medical officer of health, Dr. A. Mearns Fraser, for the year 1914, which has just been received, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs, in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this disease to avoid delay and to seek treatment before it is too late for more than palliative measures. Dr. Fraser reports that from statements made to him by local medical men the publication of circulars and newspaper articles by the health department has been instrumental in inducing a number of persons suffering from early operable cancer to secure treatment, the result of which it is hoped will be permanent.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of deaths was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the health committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily large, and they felt it incumbent to adopt whatever measures might lessen the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the health committee of the town council. As early as 1906 Dr. Childe in his book "The Control of the Scourge" had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the health department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing

and distribution of a health department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The health department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

THE CAMPAIGN AGAINST CANCER IN MISSOURI

The most recent addition to the many agencies, national and local now engaged in the warfare on cancer is the Department of Preventive Medicine of the University of Missouri. This department has just published in the University Bulletin a special article on the early diagnosis and treatment of cancer by Dr. F. A. Martin, instructor in pathology. The purpose of this bulletin is to call the attention of its readers in Missouri and elsewhere to the campaign for the education of the laity which is being carried on by the American Society for the control of cancer, the American Medical Association and other national and state organizations, and to give a brief general survey of the cancer problem as a phase of preventive medicine.

The knowledge and skill of surgeons in the treatment of cancer has progressed, according to the Bulletin, almost to the limits of what is possible and if the percentage of cures by this, the only method of treatment which offers reliable hope of cure, is to be increased, the patients themselves must co-operate by seeking earlier diagnosis and treatment. On examining the histories of a large number of cases it has been found that the patients whom the surgeon failed to cure were those who came to him late in the disease when the cancer had spread to such an extent that to remove all the cancer cells would have required an operation so great that in itself it would be sufficient to cause the death of the patient. On the other hand it is found of another group of cases which sought treatment soon after the cancer was noticed that 100 per cent. were cured. To increase the percentage of cases treated early the University Bulletin urges that laymen learn the meaning of cancer and its first warnings in order

that they may go to the surgeon in time when the cancer is still in the early stages and the chance for cure is high.

Among the many facts already known about cancer, perhaps the most important is that the disease nearly always begins in some form of abnormal tissue. This abnormal tissue which is often easily recognized, may have existed for only a few months or it may have been present from early childhood without causing trouble, only to change into cancer in later life. To these bits of abnormal tissue or groups of cells, has been given the name of "precancerous lesion." The Bulletin says that not all such conditions develop into true cancers, but most of them should be kept under careful observation by a competent medical advisor and removed as soon as there is real danger of malignant disease. This is the only known method of preventing, as distinguished from curing, cancer and the Missouri Bulletin describes carefully the various forms of precancerous lesions which should be regarded with suspicion. Among these are pigmented moles, cracks on the lip, blisters, scabs and similar persisting abnormal conditions of the skin. Probably only a very small proportion of these conditions become cancer but when moles, for instance, are so located that they are subject to constant irritation and when in later life they change in color and appearance and begin to grow it is time to have them promptly attended to. Moles and warts should never be treated with caustic but the whole lesion together with its so-called roots should be removed. When a burn on the tongue or lip from smoking does not heal within a few months it is a source of danger. Generally speaking, the removal of precancerous lesions is a trivial operation requiring only local anesthesia.

After true cancer has developed it is still possible to cure a large percentage of cases if the surgeon is given a fair chance while the disease is still local. All cases of cancer are local in the beginning and may remain so for a few weeks to several months. It is during this period that surgical treatment offers the possibility of practically 100 per cent of cures. Unfortunately for the patient pain is so rare at this stage of the disease and the conditions seem so trivial that in a great number of cases the opportunity to be saved is forfeited by the delay. In cancer of the breast, for instance, the cases cured by the late operation amount to about 30 per cent., but by an early operation, at least 80 per cent are saved. If every woman who is not nursing would go to a surgeon within twenty-four hours after she finds a lump in her breast, 90 per cent of the cases of cancer of the breast would be permanently cured.

Cancer of the tongue is perhaps the most malignant and cures by the late operation are few in number. If a small ulcer appears on the tongue consult a surgeon at once. When such an ulcer is produced by a ragged tooth, consult a dentist first and then if the ulcer does not heal within a short time after the cause has been removed it is a surgeons task.

In almost all the common forms cancer is connected with some kind of irritation. Gall-stones,

for instance, should be removed since it is established that from four to fourteen per cent. of all cases are followed by cancer.

Cancer of the uterus gives early warning by a discharge of an unusual character at an unusual period and of unusual duration. The removal of the uterus is not a dangerous operation and if the disease is recognized at an early stage the life of the patient can be saved.

The Bulletin issues an emphatic warning against quacks and their bogus testimonials, pointing out that their method of deception lies mainly in the diagnosis. There are so many conditions closely resembling cancer that the average layman cannot distinguish among them, and it is behind such conditions which are not cancer and which would tend to heal without treatment that the "cancer specialists" take their stand and make their false claims.

The Department of Preventive Medicine will supply copies of this cancer bulletin, Medical Series No. 9, upon request to the University of Missouri, Columbia, Mo., as long as the supply lasts.

AMERICAN FIRST-AID CONFERENCE

Office of Secretary,
904 N. Charles Street,
Baltimore.

Dear Doctor: The enclosed pamphlet explains the aims and objects of the American First Aid Conference recently held in Washington, D. C. The deliberations culminated in the adoption of a resolution, copy of which is also enclosed herewith, creating a board on first aid standardization for the purpose of studying first aid problems and standardizing methods, materials and equipment employed in the administration of first aid to those injured in the pursuit of industrial occupations and in war.

To attain the objects of the movement, it is essential for this board to consult the best opinion of the country on the problems involved and to enlist the sympathy and active co-operation of the medical societies throughout the United States. You are, therefore, requested to submit to the council of your Society at its next meeting a resolution to appoint three surgeons on a special committee on first aid; this committee to study and deliberate carefully on first aid methods, packages and equipment, as well as instruction, and recommend a standard for each to the national board, and to participate in the next first aid conference through a special representative or representatives from this committee. The next first aid conference will be convened to consider the results of the labors of the national board.

Trusting that you will succeed in engaging the interest of your Society in this movement,

Very sincerely yours,
JOSEPH C. BLOODGOOD,
Secretary.

First Meeting, Washington, D. C., August 23 and 24, 1915

The following resolution was passed at this meeting: That the questions noted below be sent to the

chief surgeons of railroads, mines and manufacturers, first, to be answered by them; second, that a copy of these questions be sent by the chief surgeons to their associate surgeons.

The object of these questions is to attempt to get the opinion and experience of a number of surgeons and to formulate them for publication.

Please answer each question on a separate sheet of paper and sign your name to each sheet:

1. What has been your experience with the most available first-aid package and dressing for small and large wounds.

2. What has been your experience with the immediate employment of antiseptics in accidental wounds; what antiseptic have you used, in what strength, and how applied? Have you employed tincture of iodine; if so, how and what have been the results?

3. What in your experience has been the most efficient and most readily applied method of fixation for injuries of the (a) upper and (b) the lower extremity?

4. Have you considered the construction of a stretcher, which, in addition to serving as a means of transportation of injured, will have appliances for the fixation of the upper and lower extremity, somewhat along the lines of a Bradford splint, or the Gihon naval splint?

5. Please state your views on some liquid ointment dressing which would be available for first aid in large wounds and burns with the object of preventing the usual dry-gauze dressing adhering to the wound and rendering subsequent dressings painless.

These questions have been sent to all the members of the Association of Railroad Chief Surgeons of America, and a few other civil and military surgeons.

Please give these questions your personal attention, first, and mail your answers to the Secretary, at the same time writing him and giving him the number of copies of these question sheets desired to mail to your associate surgeons.

Very sincerely yours,

JOSEPH C. BLOODGOOD, Sec.,
904 N. Charles St.,
Baltimore, Md.

Resolution Adopted by the American First Aid Conference, Washington, D. C., August 24, 1915

Your Resolution Committee has the honor to report that it has carefully considered the resolution which was committed to it and has redrafted it as follows:

Whereas, There is a great lack of uniformity in first aid methods; in first aid packages, and in other first aid equipment; and in first aid instruction, and

Whereas, Many of the aims of first aid are defeated thereby and needless suffering and expense incurred,

Therefore, Be It Resolved:

That this conference recommends to the President of the United States that he appoint a "Board on

First Aid Standardization," said board to consist of one officer each from the medical corps of the U. S. Army, the Medical Corps of the U. S. Navy, the U. S. Public Health Service, the American National Red Cross, the American Medical Association, the American Surgical Association and the Association of Railway Chief Surgeons of America; this board to deliberate carefully on first aid methods, packages, equipment and instruction and to recommend a standard for each to a subsequent session of this conference to be called by the permanent chairman; the creation and maintenance of the said board to be without expense to the United States.

Your committee further reports that it has personally consulted the assistant solicitor of the treasury and he has given the opinion that there is no legal objection to the resolution or its purpose.

The committee has also personally consulted the secretary to the president and he has assured your committee that it is his personal opinion that the president will take favorable action in the premises.

Committee on Resolutions:

W. C. Rucker, Asst Sur. Gen., U. S. P. H. S.
Major Robert U. Patterson, M. C. U. S. A.

Representing the Amer. Nat'l Red Cross
W. L. Estes, Chairman Comm. on Fractures,
Amer. Surg. Ass'n.

FEWER BUT BETTER-TRAINED PHYSICIANS

Fifteen years ago a noted educator, who was thoroughly familiar with the conditions underlying medical education, tersely remarked, "We do not need more doctors, we need more doctor." The statistics published last week show that this need is being attained. Fifteen years ago this country had 162 medical colleges, which was over half of the world's supply. Although some were well equipped and well conducted, a large proportion were owned by individuals or by joint stock corporations, and were conducted for profit. In some instances, a professorship could be secured by any physician who bought a certain amount of stock; for a smaller amount he would secure a lectureship. Since these institutions were organized for profit, it was important to secure large classes so the income from fees would be correspondingly increased. Glowing advertisements, follow-up letters and paid solicitors were freely used; thus enrollments were swelled to mammoth proportions. No wonder that the actual number of students fifteen years ago reached the amazing total of 28,142, and that there were 5,747 graduates!

In the fifteen years there has, indeed, been a marked reduction; there are nearly 50 per cent. fewer medical colleges; there are nearly 40 per cent. fewer medical students and medical graduates. Medical colleges sans teachers, sans laboratories and sans ideals have given way to well equipped medical colleges having fair entrance standards, skilled teachers, modern laboratories and an abundance of clinical material.

The sum total of colleges is decreased; the number of better ones has been greatly increased.

Instead of a great army of students, many having not even a grammar school education, and enticed from more fitting occupations by glowing advertisements and "easy" requirements, we now have about half the number; but practically all have had a preliminary training which enables them better to understand the more complex problems of modern medicine. As to the opportunities for properly equipped medical students, these have not been diminished, but have been decidedly improved. There could be a further reduction in the number of colleges and still allow of a greatly increased student enrollment. And the students would be further benefited by the change, since a greater proportion would be in the better-equipped colleges.

As to the reduction in the number of graduates, surely this country needed "fewer doctors, but more doctor!" For the public welfare it is certainly better to have a hundred well-trained graduates from modern high-grade medical schools than a thousand from the old-time variety of run-for profit institutions. There is no danger, says The Journal of the American Medical Association, that there will be a dearth of physicians. The annual number of graduates is still nearly double the loss of physicians by death; and even if it were less than the annual loss, it would be many years before a dearth would result because of the seriously overcrowded condition of the profession. There is now one physician to from 600 to 650 people, as compared with one to from 1,500 to 2,500 in the leading nations in Europe. Even with this amazing contrast, we have not included in the figures for this country the hordes of so-called "drugless practitioners," Christian Scientists, osteopaths, chiropractors, naprapaths, etc., who are scarcely found in other countries.

THE PROSPECTIVE MEDICAL STUDENT

"How may the student secure reliable information on these matters? Some medical colleges advertise extensively in newspapers and popular magazines and through announcements and circulars containing glowing, if not misleading, statements. At present certain medical schools are being thus advertised, even though their diplomas are not recognized in from twenty-five to thirty-two states! It is hardly to be expected that the announcements sent out by these schools will contain the information which the prospective medical student needs. It is essential, therefore, that he should secure information from impartial and reliable sources, so as to make sure he is not enticed into a low-grade institution and find on graduation that his diploma has but limited value. To thoroughly inform himself, therefore, says The Journal of the American Medical Association, "he should first secure the announcements of a number of colleges and study these. But, at the same time, he should secure reliable information from other sources. He should read the reports on

medical colleges published from time to time in The Journal by the Council on Medical Education, which can be obtained in reprint form. After an extensive investigation the medical schools of the country have been rated by the Council in three classes, namely, A, B and C. If the student is otherwise in doubt, he will not make a mistake by choosing one of the colleges contained in the higher classifications. If he has earned his diploma at a college in the higher classification which required for admission two or more years of college work, in addition to a four-year high school education, there is no doubt regarding either the quality of the training obtained or his eligibility after graduation to obtain a license in any state he may choose.

"In his preliminary and medical education the student should bear in mind that he is laying the foundation for the rest of his life. If he finds that additional preliminary education is needed to enter one of the better medical colleges, he should consider the time well spent, since he is all the more sure of having laid a solid foundation. Although the medical profession in this country is overcrowded, there is always room for the thoroughly competent. On the other hand, disappointed indeed will he be if because of lower entrance requirements or other allurements he is induced to get his training in a poorly equipped college and finds after graduation that he is handicapped for life."

SAFETY BULLETIN NO. 16, CHICAGO AND NORTH WESTERN RAILWAY CO.

The Safety First movement is now five years old and because through it North Western men have begun to realize that their lives and their limbs are their most priceless possession, as well as the greatest asset the company has, they have, by their enthusiastic co-operation with the officers of the corporation, brought about safer working conditions and have instilled in the minds of all employes the necessity of doing their work in a safe and careful way, so that the following reduction in deaths and injuries to the men who do the work has been brought about:

	Killed	Injured
July 1, 1909 to June 30, 1910—(before the Safety First Committees were organized)	107	8629
July 1, 1910, to June 30, 1911.....	90	7135
July 1, 1911, to June 30, 1912.....	70	5907
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UNAVAILABLE DEFENSES FOR UNLAWFULLY PRESCRIBING MORPHIN

(Hyde vs. State (Tenn.), 174 S. W. R., 1127)

The Supreme Court of Tennessee affirms a conviction of the appellant Hyde, a practicing physician, of unlawfully prescribing morphin, in violation of

the Act of 1913. The court says that this is modeled after, and closely conforms to, the Act of Congress later passed and approved December 17, 1914, effective on and after March 1, 1915, so far as the provisions of the congressional enactment could be made applicable to and regulate intrastate sales of the drugs affected, there being left a not inconsiderable field for the operation of the local act, which is the initial step in Tennessee in the regulation of the sale of habit-forming drugs. The court does not agree with the contention that the state statute, so far as the appellant was concerned, was a regulation of the practice of medicine, and not a regulation of sale or sales. The practice of medicine is not undertaken by it to be regulated; it is affected at but a single and minor point, by way of incident to the distribution of the particular drugs a physician may find it necessary in his practice to prescribe. Nor does the provision that a physician can prescribe the indicated drugs only when he is in personal attendance on the patient arbitrarily curtail his right to practice by prescribing according to methods formerly obtaining. It does not violate either the fourteenth amendment of the federal constitution, or the provision of the state constitution that no man shall be deprived of his liberty or property but by the law of the land. It is not unreasonable or arbitrary to hedge about the issuance of such prescriptions by making it a condition that the physician "shall personally attend the patient;" since only by personal observation and diagnosis can the physician be sure that the drug is needed that he himself is not being imposed on in an effort through him to defeat the very purpose the statute has in view. In this case a detective, under employment by the pure food and drug department of the state, went to the office of the appellant and requested a prescription for morphin for an alleged friend of his, Louise Walker, who he said lived on a certain street. No such woman existed, and there was no such street address as that given. Having obtained the prescription and paid for it, the detective took it to a pharmacy, where it was filled, the detective paying for it. The court holds that, on sound principle and true policy, the physician must be held to answer as a principal in the offense committed in the illegal sale. The court fails to see how the appellant could avail himself of the fact that the person prescribed for was nonexistent. Rather would it seem that this fact showed at once the recklessness of the accused and a substantial reason for the provision in the statute that the giving of a prescription for the drug should be only to a patient actually attended. The appellant's attempted defense came to this: There can be no guilt if there be no real and indicated patient to receive the product of the prescription; therefore, in order to a defeat of the statute with impunity, it is only necessary to put out prescriptions for fictitious persons. If the prescriptions or the drugs derived through them come into the hands of habitual users or whomsoever, what does it concern the physician? The lawmakers certainly did not intend to pass a statute thus inane. The beneficent end they had in

view should not be thwarted by any refinement of reasoning; certainly not by reasoning that leads to a conclusion so unsatisfactory, not to say unsound. Nor may the physician successfully defend by proving that the prescription was caused to be issued and the sale to be made by means of the solicitation of an agent of a department of the state government, for the purposes of a criminal prosecution. Whatever may have been the trend of the earlier authorities, it is now a well-established rule that such acts of a government agent do not absolve the defendant's act of criminality.—(The Journal of the American Medical Association.)

BOOK REVIEWS

THE CLINICS OF JOHN B. MURPHY, M. D., AT MERCY HOSPITAL, CHICAGO, AUGUST, 1915

Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London. Price, Paper, \$8.00; Cloth, \$12.00 Per Annum.

This, the August number, contains an unusual variety of clinics, some thirty-two, and directly in line of the surgery which comes to the general practitioner.

The first is a talk on syphilis. Dr. Murphy is of the opinion that in the treatment of primary syphilis sodium cacodylate is to be preferred over salvarsan. Of the eleven clinic cases on the head and face, two carcinoma of the lip are especially interesting because of the importance of early diagnosis, thorough dissection and a consideration for deforming scar. Every surgeon believes he can do an operation for cancer of the lip, but only a few can do a good operation. Five of these operations were for various intra-cranial conditions of very considerable importance.

A case of subacromial bursitis treated by formalin-glycerine injection is presented.

Three cases of fracture of the humerus with injury to the musculo-spiral nerve and one case of infantile paralysis are given, involving operations on the nerve or tendons for restoration of function. These cases are very important and require the highest skill and surgical judgment.

All the cases presented in this number are of unusual interest, particularly because they mainly represent everyday surgery and because they represent that kind of surgery that tests the skill of the surgeon, and a failure to do the right thing is very apparent. There is no escape in these cases except to do the right thing.

APPLIED IMMUNOLOGY

The Practical Application of Sera and Bacterines, Prophylactically, Diagnostically, and Therapeutically. With an Appendix on Serum Treatment of Hemorrhage, Organotherapy, and Chemotherapy by B. A. Thomas, A. M., M. D., Professor of Genito-Urinary Surgery in the Polyclinic Hospital

and College for Graduates in Medicine, Instructor in Surgery in the University of Pennsylvania; and R. H. Ivy, M. D., D. D. S., Assistant Instructor in Surgery in the University of Pennsylvania. Five Colored Inserts and 68 Illustrations in Text. J. B. Lippincott Company, Philadelphia and London. Price, \$4.00.

The practice of medicine and surgery so far as infectious diseases are concerned, is passing from drug treatment to serum treatment. Before considering the questions of treatment certain fundamental facts must be taken into account, as natural immunity,—resistance to infectious micro-organisms,—physical conditions, virulence of infection, etc. The facts above referred to are well pointed out in the introductory chapter and the chapter on antigens and antibodies. There is an important fact to be taken into account in this connection,—hypersusceptibility.—This is set forth in the chapter on anaphylaxis. Commencing with Chapter five and including Chapter eight, a study is given to antisera. With Chapter nine begins a discussion of conditions of the blood induced by infectious micro-organisms, which may be determined in a diagnostic way by certain reactions as by Widal phenomena precipitatus, by Bordet-Gengon phenomena, Wassermann and other fixation or absorption of complement; gonococcus complement, fixation test, etc., Abderhalden's biochemical reactions for pregnancy, etc.

Chapter sixteen is devoted to tuberculin therapy.

After a short chapter on phagocytosis and another on recovery from bacterial infection, the remainder of the book is devoted to the principles underlying inoculation therapy, preparation of bacterines, autogenous versus heterogenous preparations, clinical symptoms versus opsonic index in control of treatment, etc. Very little space is devoted to speculation. Only fairly well worked out methods and facts are considered, so that a fairly well trained physician in modern medicine may with careful study of this book, utilize immunizing methods of treatment in ordinary practice.

OPERATIVE GYNECOLOGY

by Harry S. Crossen, M. D., F. A. C. S., St. Louis. 700 Pages, With 770 Original Illustrations. Published for \$7.50 by the Press of C. V. Mosby Company of St. Louis, 1915.

This work by Dr. Crossen supplements his earlier volume on diseases of women. In this, only operative methods are described. There are seven hundred and seventy illustrations, all of them original. The text is clear and concise, full enough for the reader whose knowledge of anatomy and diagnosis is up-to-date. The illustrations are exceedingly well selected, numerous enough to outline steps of the operations, almost as good as stereoscopic views.

Dr. Crossen also gives a chapter to the continuous sponge. This is very important. The reviewer has used this method in the operating room for five

years and can recommend it as a safe and convenient procedure. The chapter on after treatment in abdominal section is worthy of special attention. Chapter XIX takes up medico-legal points and is intensely practical.

An exceptionally practical work and both Dr. Crossen and the Mosby company deserve great credit for giving it to the profession.

CANCER: ITS STUDY AND PREVENTION

By Howard Canning Taylor, M. D., Gynecologist to the Roosevelt Hospital, New York; Professor of Clinical Gynecology, Columbia University; Member American Society for the Control of Cancer, etc. 12 Mo. 330 Pages. Cloth, \$2.50, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The cancer problem is the greatest problem before the profession and the people today. It is discussed in the Journal from every point of view. When Butlin wrote his book on cancer in 1900 the three years cure in cancer of the breast was 28.9 per cent.

In 1915 Taylor's book 39.8 five years cure (Judd). Presumably the difference in per cent. cures is in early diagnosis and operation, and for the same reason the statistics for 1930 will show a like improvement in operative results. No one can doubt the immense influence of Butlin's work, at the time it was written, in bringing the attention of the profession to the fact that operations for cancer were more than merely to prolong life and lessen suffering; operations were for the purpose of cure. Plainly statistics in relation to the cure of cancer are of but little value except from the clinics of the most competent surgeons whose knowledge of cancer pathology, anatomical relations and care and thoroughness of work are of the highest order. General statistics of operative results would be of but small value.

Dr. Taylor has rendered the profession a great service in bringing together the main facts presented in the great flood of literature that has appeared on cancer within the last few years. His service is like that of Butlin fifteen years ago. No well informed surgeon could afford not to read Butlin's at that day; likewise no medical practitioner, whether surgeon or physician, can afford not to read Dr. Taylor's work of today.

THE ROCKEFELLER FOUNDATION INTERNATIONAL HEALTH COMMISSION

First Annual Report, June 27, 1913, December 31, 1914. Office of the Commission, 61 Broadway, New York.

This report of ninety-eight pages gives us a fair conception of the work this commission is doing in investigating diseases in those far away countries with which commerce will bring us into closer relations some day. No one can doubt the immense value these investigations will be to us in the future.

THE ROCKEFELLER SANITARY COMMISSION FOR THE ERADICATION OF HOOKWORM DISEASE

Fifth Annual Report for the Year 1914.
Publication; Offices of the Commission,
Washington, D. C.

FLIES AND DIARRHEAL DISEASE

Publication No. 91, New York Association for Improving the Condition of the Poor.

The Bureau of Public Health and Hygiene of the New York Association for improving the condition of the poor has issued a special publication entitled, "Flies and Diarrheal Disease," descriptive of its three months' study in the homes of over a thousand infants in New York City on the relation of flies and diarrheal disease. Special attention has been given such influencing factors as dirt and artificial feeding, and their relative importance determined. A full description of the study with its important conclusions may be obtained by request from Philip S. Platt, Superintendent of the Bureau, 105 East Twenty-second street, New York, N. Y.

A SYNOPSIS OF MEDICAL TREATMENT

By George C. Shattuck, M. D., Second Revised Printing of the Second Edition, Price, \$1.25. W. M. Leonard, Boston, Publisher.

This book presents clearly and concisely sound principles of treatment, based on known pathology. The methods described are selected from those that have been tried at the Massachusetts General Hospital and in private practice. Hence the work sets forth in detail the post graduate course in clinical medicine given, at the hospital, by well known teachers.

The first edition was twice printed. In reprinting the second edition opportunity has been used to revise and complete minor details.

The repeated editions and printings of this book indicate its practical value to physicians.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Standard Radium Solution for Bathing.—A 5.2 per cent. barium chloride solution containing radium chloride equivalent to 4.2 micrograms of radium per bottle. For "Actions and Uses" see the article on radium in New and Non-official Remedies. The barium in the solution is said to have no effect. The contents of a bottle, containing 4.2 microcuries or 10,000 Mache units are used for a bath. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., April 17, 1915, p. 1325).

Standard Radium Solution for Drinking.—A solution of 2 micrograms of radium and 1.3 mg. barium chloride per bottle of 60 c.c. For "Actions and Uses" see the article on radium in New and Non-official Remedies. In view of the small barium content, it is claimed that the physiologic action of barium may be ignored. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., April 17, 1915, p. 1325).

Standard Radium Earth.—A mixture consisting chiefly of silica and small quantities of carnotite, 450 gm. containing 0.45 micrograms of radium in the form of radium sulphate. For "Actions and Uses" see the article on radium in New and Non-official Remedies. For use the earth is mixed with water and heated for a time. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., April 17, 1915, p. 1325).

Standard Radium Compress.—A compress containing 225 gm. of a mixture consisting chiefly of silica and barium sulphate containing radium sulphate equivalent to 15 micrograms of radium. For "Actions and Uses" see the article in New and Non-official Remedies on radium. Being applied wet, it is claimed that the action is partly due to beta and gamma radiation of the radium salt and partly to the radium emanation which is dissolved out by the water. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., April 17, 1915, p. 1325).

PROPAGANDA FOR REFORM

Peacock's Bromides.—A report of the Council on Pharmacy and Chemistry points out that Peacock's Bromides (The Peacock Chemical Co.), said to contain the bromides of potassium, sodium, ammonium, calcium and lithium equivalent to 15 grains of potassium bromide per fluidram, is secret in composition in that the amount of the individual bromides is not stated. The report contradicts the asserted uniformity of the preparation and the claim of superiority. It questions the asserted advantage of a mixture of bromides over a simple bromide solution and holds that, if there were any advantages in prescribing such a mixture of bromides, the physician should regulate their proportions. The report further points out that the therapeutic claims are misleading and not in accordance with modern teachings and practice. Thus while the Peacock company advises the liberal use of bromides in the treatment of epilepsy, the best clinical teaching advises the avoidance of bromides as far as possible (Jour. A. M. A., April 3, 1915, p. 1177).

Chionia.—A report of the Council on Pharmacy and Chemistry discusses the claims made for Chionia (The Peacock Chemical Co.) said to be "A Preparation of Chionanthus Virginica"—a drug which is generally conceded to be worthless and which has been the subject of an unfavorable report of the Council. While claiming Chionia to be a "potent hepatic stimulant" the exploiters appear to appreciate its inefficiency, for it is advised to combine the

nostrum with drugs of recognized potency such as the heart tonics and laxatives in passive congestion of the liver, mercurial purge, podophyllin or sodium phosphate in "Biliousness," etc. (Jour. A. M. A., April 3, 1915, p. 1178).

Dr. May's Formula.—Dr. May's Formula, formerly called May's Epilepticide, is sold on the mail order plan by Dr. W. H. May Medical Laboratory, New York. Examination in the A. M. A. Chemical Laboratory indicated that this "epilepsy cure" contains ammonium bromide and sodium bromide as the essential constituents, the bromide content being equivalent to 15 grains of potassium bromide per fluidram (Jour. A. M. A., April 3, 1915, p. 1178).

Hagee's Cordial.—The Council on Pharmacy and Chemistry reports that Hagee's Cordial of the Extract of Cod Liver Oil Compound (Katharmon Chemical Co.) has neither the nutritive qualities nor the reconstructive efficacy of cod liver oil and that it is worthless for the conditions for which it is advertised. Recent experiments having shown that cod liver oil, like butter and egg yolk, possesses certain growth-promoting properties not found in some other fats, the promoters of Hagee's Cordial claim these properties of cod liver oil for their extract. The Council has previously expressed the opinion that cod liver oil owes its value in the main or entirely to its fatty constituents. Now the Connecticut Agricultural Experiment Station has demonstrated that the growth-promoting properties of cod liver oil are not to be found in Hagee's Cordial (Jour. A. M. A., April 10, 1915, p. 1262).

Wampole's Preparation.—Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver (H. K. Wampole Co., Inc.) is marketed under a non-quantitative and therefore practically worthless statement of composition. Experiments carried out at the Connecticut Agricultural Experiment Station have demonstrated that the Wampole Preparation, which also contains extract of malt and sugar, does not possess the advantages over ordinary cod liver oil as a source of nutriment, as claimed. Neither did the Wampole preparation appear to possess to any marked degree the reconstructive properties of cod liver oil, butter fat and egg yolk. The Council on Pharmacy and Chemistry held Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver ineligible for New and Non-official Remedies because, contrary to claim, it lacks both the nutritive and reconstructive properties of cod liver oil and because it is marketed under an indefinite name and under unwarranted claims (Jour. A. M. A., April 10, 1915, p. 1262).

The Electro-Chemical Ring.—A post office fraud order has put a stop to the sale of this silly contrivance. This ring, put on the market by the Electro-Chemical Ring Co., Toledo, Ohio, was found to be made of ordinary iron. It was claimed to cure diseases caused by acid in the blood, among which were stated to be Bright's disease, diabetes, epilepsy and cataract (Jour. A. M. A., April 10, 1915, p. 1263).

Dr. Croney's Specific for Epilepsy.—This epilepsy "cure" is sold on the mail-order plan by Dr. James T. Croney of Columbia, Ohio. Examination in the A. M. A. Chemical Laboratory showed it to be a solution containing ammonium bromide and potassium bromide as essential constituents, containing bromide equivalent to 16.9 grains potassium bromide per dose of two teaspoonsful (2 fluidrams). Like other epilepsy "cures," Croney's Specific for Epilepsy is a bromide mixture and is both worthless and dangerous (Jour. A. M. A., April 17, 1915, p. 1344).

Olivine.—Olivine was a liquid soap put on the market by the To-Kalon Manufacturing Co., Syracuse, N. Y. It was declared misbranded under the Federal Food and Drugs Act because, contrary to claim, it was not made from olive oil, because boroglycerine was absent and because it had neither antiseptic or germicidal action (Jour. A. M. A., April 17, 1915, p. 1346).

COMING MEETINGS

The annual meeting of the Southeastern Iowa Medical Society, will be held at Washington, November 18th. A banquet will be served at the Methodist church preceding the scientific program.

SOCIETY PROCEEDINGS

The Appanoose County Medical Society met October 27th at the Society Assembly Room of Drake Free Public Library, Centerville. The general subject for discussion at this meeting—Diseases of the Rectum—was carried out as follows:

Diagnosis and Treatment of Puritis Ani—J. A. Replogle, Udell.

Medical Treatment and Management of Hemorrhoids—U. L. Hurt, Numa.

Surgical Treatment and Management of Hemorrhoids—W. L. Downing, Moulton.

Diagnosis and Treatment of Anal Fistula—Earl Sellers, Moulton.

Diagnosis of Cancer of the Rectum—C. T. Slavin, Moravia.

The Audubon County Medical Society met in the assembly room of the Public Library at Audubon, October 19th. The following was the program:

The Schick Cutaneous Reaction in Diphtheria—Fred Moore, Des Moines.

Tuberculosis in Children—J. H. Peck, Des Moines.

A Case of Appendicitis Complicated by Parotitis—R. F. Childs, Audubon.

The Benton County Medical Society held its annual meeting at Vinton, October 6th and the following officers were re-elected: President, G. R. Wagner, Van Horne; Vice-President, A. L. Bryan, Belle Plaine; Secretary-Treasurer, J. D. Dunshee, Keystone and W. A. Vincent, Belle Plaine, Delegate.

The annual meeting of the Buena Vista County Medical Society was held at Hotel Sioux, Sioux Rapids, October 25th. The officers elected for the

coming year were: President, Oscar Oberg, Sioux Rapids; Vice-President, E. E. Smith, Sioux Rapids; Secretary-Treasurer, E. F. Smith, Storm Lake.

The annual meeting of the Dallas-Guthrie County Medical Society was held at Panora, October 21st. The program was:

The Schick Cutaneous Reaction in Diphtheria—Dr. Fred Moore, Des Moines.

Notes on the Sanitary Survey of Dallas County—Dr. Freeman of U. S. Public Health Service.

Dallas County is especially favored in the privilege of the sanitary survey by the U. S. Public Health Service. The officers for the coming year are: President, Allen Moorman, Redfield; Vice-President, T. W. Bush, Bagley; Secretary-Treasurer, S. J. Brown, Panora; Delegate, T. W. Bush; Alternate Delegate, S. P. Free, Perry.

The Decatur County Medical Society met at Leon, October 28th. After the program, the guests were entertained at a banquet at the Christian church.

Fayette County Medical Society met at Donnan, October 5th with a good attendance. Dr. Ward, the secretary writes: "Our meetings are well attended and grow more interesting each time and we think we are developing one of the best county societies in the state."

Resolutions on account of the death of Dr. J. W. McLean, Fayette, which occurred October 4th, were adopted and appear with his death notice in this issue.

The program was:

Suppurative Peritonitis—A. M. Pond, Dubuque.

Eclampsia—Walter H. Fox, Waucoma.

Dr. Pond reported a series of five cases of suppurative peritonitis treated by incision and drainage and washing the abdominal cavity out freely with a solution of resublimed iodine crystals five dr. to alcohol one quart. He reports recovery of four of the five cases and thinks this is the ideal treatment for this class of very serous cases.

The Lee County Medical Society held its semi-annual meeting at the Y. M. C. A., Keokuk, October 26th. The scientific program was:

Reports of Unusual Fractures—F. B. Dorsey, Keokuk.

A New Operation for Chronic Frontal Sinusitis—F. L. Wahrer, Ft. Madison.

Mental Obliquity—F. C. Roberts, Ft. Madison.

Some Interesting Medical and Surgical Work in Connection with Constructive Work—O. T. Clark, Keokuk.

About forty physicians were in attendance, and the papers were freely discussed. After the meeting a six o'clock banquet was served at the Iowa Hotel.

Sixty physicians from Cedar Rapids and surrounding towns attended the first autumn meeting of the Linn County Medical Society held at Hotel Montrose, Cedar Rapids, October 27th.

Dr. H. L. Prentiss, Professor of Anatomy, College of Medicine, State University, read a paper on "The Anatomy of the Hand in Relation to Infections."

Drs. Chas. J. Rowan and H. L. Beye from the department of surgery in the State University discussed the "Treatment of Acute Infections of the Hand."

The Louisa County Medical Society held its annual meeting at Wapello, October 10th. Papers were read by Dr. S. J. Lewis, Columbus City, and Dr. E. C. Rogers, of Wapello. Officers elected for the ensuing year are: President, W. S. McClellan, Morning Sun; Vice-President, J. H. Chittum, Wapello; Secretary-Treasurer, O. W. McGrew, Grand View.

The Marshall County Medical Society met at the Marshalltown Club Rooms, October 27th. After a banquet at 7:30 the following program was given:

Report of an Ear Case—R. F. French, Marshalltown.

The Special Manifestations of Tuberculosis in Infants and Children—A. H. Beifeld, Iowa City.

Blood Pressure—G. E. Crawford, Cedar Rapids.

The Monona County Medical Society held its regular meeting at Castana, October 14th.

At the regular October meeting of the Polk County Medical Society held at the Savery Hotel, October 26th Dr. H. A. Minassian read a paper on The Etiology of Uterine Hemorrhage. The principal points of this paper are thus summarized:

1. Causes residing in the uterus and adnexa,—neoplasms benign and malignant, chronic metritis, malpositions, etc.

2. Intractable hemorrhages unassociated with gross changes in the endometrium or neoplasms of uterus or adnexa.

3. The bleedings of the climacteric, chronic hypertrophic endometritis not so common a cause of hemorrhage as formerly thought. Changes in the myometrium itself more important. These changes consist of:

1. Fibrosis uteri.
2. Myometrial degeneration.
3. Uterine arteriosclerosis.

More recently part played by the ovary or the ovarian hormone in intractable hemorrhages considered of great importance. Deficiency of thrombokinas and excess of thrombolysin the cause of such hemorrhages.

Report of cases illustrative of various types of intractable uterine hemorrhages.

Dr. W. O. Smouse read a paper entitled Tuberculous Peritonitis.

The principal points brought out in the paper were the differentiation of the three principal types of tuberculous peritonitis namely:

1. The ascitic type,
2. The encysted type,
3. The adhesive, or obliterative type.

A history was given of a patient suffering from each one of these types, with a complete description of the course of the disease, the operations performed, the treatment given, and final termination in each case.

A typical case of the ascitic type was shown, on whom, the author had quite recently done an amputation of the left limb, for a tuberculous knee joint, and a laparotomy for the tuberculous peritonitis.

The Ringgold County Medical Society met at Mount Ayr, October 20th. This meeting was well attended, there being quite an attendance from adjoining counties, notably from Decatur county whose doctors are noted for their prompt attendance at meetings of medical societies. Dr. H. C. Eschbach, of Albia, read a paper on Gall-Stone Disease; Dr. B. L. Eiker, of Leon, discoursed on Preventive Medicine, and Dr. J. B. Horner, of Lamoni, gave the Society a talk on Infantile Icterus. All these subjects were handled exhaustively and were much enjoyed and extensively discussed by the doctors present.

The Scott County Medical Society met at the Commercial Club, Davenport, October 5th. Dr. B. H. Schlomovitz of the State University, Iowa City, gave an address on The Effect of Different Drugs Upon the Heart. At this meeting resolutions were passed by the Society to the effect that no member of the Scott County Medical Society will read a paper at the meeting of the Iowa State Medical Society to be held in Davenport next May. The object of this resolution is to allow the local physicians to give all their time to the comfort and entertainment of the city's guests at the May meeting.

The Van Bureau County Medical Society met at Farmington, October 21st, with the following program:

Rheumatism in Infancy and Childhood—W. H. Newlon, Ft. Madison.

The Use of Pituitrin to Shorten the Second Stage of Labor, with Report of Cases—W. C. Kasten, Ft. Madison.

Intestinal Obstruction—Medical Standpoint—J. M. Casey, Ft. Madison.

Intestinal Obstruction—Surgical Standpoint—M. L. Bishoff, Ft. Madison.

Sinus Infection—R. M. Reimers, Ft. Madison.

How it Was Done—Dr. F. C. Roberts, Ft. Madison.

At the Wapello County Medical Society meeting of October 5th, Drs. E. J. Lambert and H. W. Vinson gave exceptionally interestingly papers on Fisher's theory of Edema, the former elaborating the theory and the latter outlining the practical application of the principle. Dr. Lambert prefaced his paper by relating that a few years ago he was a sufferer from nephritis and that Prof. Fisher was the

first to hold out any hope to him, saying that if he did not have high blood pressure, rest and alkalis would cure him; and he had himself worked out many of the experiments used by Fisher to illustrate and demonstrate the theory. He related Fisher's experiment showing that a frog's leg ligated and placed in a properly acidulated solution would swell but that it would not in air. Fibrin placed in a test tube with acid solution swells markedly, slightly in alkaline solution, and very little in a solution of neutral salts; gelatine previously swollen by being placed in acid solution diminishes in bulk on the addition of neutral salts. This same swelling, he had demonstrated, occurred under similar treatment with pieces of skeletal and heart muscle and kidney; Dr. Lambert had demonstrated that an eye-ball in acid solution would burst its tough sclera, an apparent demonstration of the edema theory of glaucoma. The essayist had pieces of kidney placed in solutions of different reactions and demonstrated casts of different kinds by placing scrapings from their surfaces under the microscope.

Dr. Vinson then followed going into the detail of the treatment, the purpose of which is to neutralize the acid condition of the tissues, to which acid condition, Fisher believed the edema is due. It often happens that the scientific explanation of the benefit of remedies which have been used empirically for years comes thus tardily. The potassium and sodium salts, Basham's mixture, etc., have been used for a long time supposedly mainly for their diuretic action. In the discussion that followed, it was evident that the view of the supporters of Fisher's theory that even the edemas usually called mechanical were of acid origin was not accepted by all the disputants.

At the meeting held October 19th, the first paper of the evening was by Dr. F. W. Mills on Hydro-nephrosis. Dr. Mills discussed the causes showing how one or both kidneys may be affected according to the location of the obstruction, that the condition may be congenital or acquired; how back pressure may cause pressure atrophy of the kidney, that diagnosis may be easy or difficult and that unless the obstruction is temporary e.g. by a small calculus passing—the condition being mechanical, the treatment must likewise be mechanical.

Dr. D. J. Glomset, of Des Moines, a guest of the society by invitation, then gave a very interesting talk on the Relation of Laboratory Work to the Practice of Medicine; he recited the historical development of laboratory methods calling attention to the great laboratory workers and their discoveries which have inaugurated and guided the great forward moves in the recent course of medical science, as Koch, Virchow, Pasteur, Von Behring, Walter Reed, etc. He claimed that a large percentage of the diagnosis by the best clinicians have been proven to be wrong and that there is a positiveness about the laboratory diagnosis which is desirable; calling attention to frequent errors concerning cases supposed to be cancer, lues, typhoid. He admitted that two laboratory men may come to different conclu-

sions on the same case but explained that that was due to the human element. He maintained the laboratory man should have had a through training in a good laboratory and be acquainted with all phases of disease. He discredited the commercial laboratories and held that each community should be so closely in touch with a laboratory that there could be frequent personal co-operation between the physician and the laboratory man. He maintained that the efficient laboratory man should be imbued with the spirit of original research and not be in it for the dollar only.

The paper inspired the committee of the society which has the investigation of the possibility of establishing a laboratory in Ottumwa to report on their work to date and to invite discussion. It was very evident there was a spirit favoring going ahead along lines looking to controlling some of the city and county work so that money usually appropriated for that purpose might be turned over to the laboratory, the members of the society pledging themselves to, among themselves, care for the county work.

The Northwestern Iowa Medical Society, including the counties of Sioux, Osceola, O'Brien and Lyon, met at the Arlington Hotel, Sheldon, October 27th with the following program:

Tubercular Peritonitis—F. P. Winkler.

One of the Causes of Intussusception in the Adult—A. E. Spalding, Luverne, Minnesota.

Chronic Pancreatitis—J. W. Shuman, Sioux City. Discussion opened, Dr. D. L. Rundlett, Sioux Falls.

A Case of Extra-Vesical Calculus in the Extreme Lower End of the Ureter—Frank S. Hough.

Thyroid Deficiency—L. L. Corcoran.

Osteomyelitis—F. W. Cram.

After the program, a banquet was served, Dr. G. G. Cottam, of Sioux Falls, acting as toastmaster. The officers are: W. H. Myers, of Sheldon, President; L. L. Corcoran, of Rock Rapids, Vice-President; Jay M. Crowley, of Rock Rapids, Secretary-Treasurer.

At the eleventh annual meeting of the Second District Medical Society held at Hotel Blackhawk, Davenport, October 19th, officers elected were: President, W. H. Rendleman, Davenport; First Vice-President, H. R. Reynolds, Clinton; Second Vice-President, Wm. H. Johnson, Muscatine; Secretary and Treasurer, J. V. Littig, Davenport.

The Iowa and Illinois Central District Medical Association met at the Rock Island Club, Rock Island, October 14th. The program was:

The Obstetric Forceps—W. L. Allen, Davenport. Discussion, E. B. Gilbert, Geneseo; J. D. Cantwell, Davenport.

Dementia Precox—W. A. Crooks, Rock Island. Discussion, R. P. Carney, Davenport; A. E. Williams, Rock Island.

Some Observations on Surgery of the Bile Pass-

ages and Liver, C. A. Hamann, Cleveland, Ohio. Discussion, H. A. Beam, Moline; G. E. Decker, Davenport.

This association was organized in 1866. The present officers are: President C. S. Young, Geneseo, Ill.; Vice-President, D. S. Fairchild, Clinton; Secretary, L. W. Littig, Davenport; Treasurer, F. H. First, Rock Island, Ill.; Reporter, W. D. Chapman, Silvis, Ill.

The Fort Madison Medical Society for its meeting on Friday, October 8th had as its guests Drs. Richard H. Harte, Philadelphia; Donald C. Balfour, Rochester, Minn.; Victor C. Vaughn, Ann Harbor, Mich.; W. J. Mayo, Rochester, Minn.

The distinguished guests were entertained in the afternoon by a visit to the State Penitentiary where the inmates gave a minstrel show. At the scientific meeting held after the banquet, Dr. Mayo before giving his address, took occasion to express his appreciation of what Warden Sanders had done to entertain the guests, and to commend the warden for his efforts to return the inmates to the state at large as assets.

In the evening a banquet was tendered the guests and out of town visitors. The main banquet was served in the Masonic Temple and owing to the large attendance an overflow banquet was held at the Baptist church. One hundred and seventy-five guests were seated at the Masonic Temple and sixty at the Baptist church.

The after dinner program consisted of talks by Dr. Kasten and A. S. Pollard, banker orator, and music by Mr. C. W. Weeks who sang "Appendicitis" and "Rolling Down the Rio." This was followed by Warden Sanders' Clarinet Player and Imperial Saxophone Quartette, all five being inmates of the warden's institution.

After a short interval the scientific program was given. Dr. Richard H. Harte being the first speaker. His subject was, Typhoid Perforations. Dr. Harte emphasized the importance of prevention in this disease and called attention to the necessity of filtration of city water when taken from the streams to render it potable. In regard to perforation Dr. Harte advises immediate operation once the diagnosis is made. He thinks the surgeon and physician should frequently consult in this disease to keep the surgeon familiar with the case. He emphasized the importance of early diagnosis in perforation showing that the earlier the diagnosis and operation the better the prognosis. The doctor stated that perforations are more frequent; in the male than the female; in the young than the aged; and in the summer season because the disease is more common then. It most frequently occurs the third week though it may happen any time. It may be detected by pain, rigidity, tenderness, vomiting, change of pulse, change of expression. The sensibility of the surgeon's finger tips is important. The pain varies with the stage of the disease being less marked in advanced cases. Rigidity is the most im-

portant symptom, pain may not be present and the pulse and expression may not change early.

In operating Dr. Harte prefers light general anesthesia. Out of 139 cases in the Pennsylvania Hospital, 125 were operated with 25 per cent. of cures, and two of these were apparently moribund.

Dr. Donald C. Balfour of the Mayo Clinic read a paper on Gastric Ulcer. He emphasized the prevalence in men—4 to 1—called attention to the symptoms in detail, mentioned the differences and resemblances to duodenal ulcer, noted the relief of pain following taking of food. His paper went into technical detail and was of great interest.

Dr. Victor C. Vaughn had for his subject, Early Diagnosis of Tuberculosis. Dr. Vaughn said that tuberculosis is not hereditary, it is contagious. Diagnosis should be made by the history and physical signs; to wait for the bacilli to be found is to wait too long; the patient is practically beyond help when the bacilli are found though knowing their presences will benefit the community if it results in the isolation of the patient.

Dr. Vaughn emphasized the importance of a careful examination, family history, association with persons with chronic cough, variance in weight, pleurisy, (90 per cent. of pleuritics develop tuberculosis), hemorrhage, temperature, all should receive careful consideration.

Dr. Vaughn said that at the University of Michigan all freshman students except law students are examined for tuberculosis. Open cases are sent home. Closed cases are allowed to stay and are kept under observation. In eight years 10 per cent. of girls were found to have closed cases which responded to treatment in all but five or six who had to go home. He was emphatic against the use of tuberculin; he emphasized the importance of medical attention, and vigorously condemned exercise. He advised against change of climate except in occasional cases; he called attention to the high death rate in Massachusetts (250 per 100,000) as being largely due to ignorant foreigners and to residence in old houses that have harbored many cases of tuberculosis; he stated that since the struggle against tuberculosis, began ten years ago the mortality had been reduced 55 per cent, and so far only the most intelligent physicians and laymen are interested. In Detroit when a diagnosis of tuberculosis is made every member of the family and every person associated with the patient is examined and placed under surveillance.

Dr. Wm. J. Mayo's subject was, Surgery of the Spleen. Dr. Mayo noted the large blood supply of this organ; dwelt at length on its functions; said that it seemed to destroy red blood corpuscles; and stated that the removal of the spleen in pernicious anemia seemed to restore the patient's vitality. In eighty cases of splenectomy known to Dr. Mayo the mortality was 5 per cent.

The Tri-State Medical Society held its 1915 meeting under the Presidency of Dr. Lewis Schooler, of

Des Moines, at the LaSalle Hotel, Chicago, Ill., October 6th, 7th and 8th.

The papers were of high character and elicited spirited discussions throughout. The Symposium on Tuberculosis was exceedingly interesting and the discussion was very entertaining and instructive being participated in by a large number of the members.

The attendance was the largest in the twenty-three years existence of the society.

The work was pushed from the beginning by the presiding officer so not a moment was lost during the first two days. The third day was devoted to clinics at the different hospitals which were well attended.

The only social occasion was a dinner on the evening of the second day in honor of Major James M. Phalen, United States Army which was really a part of the scientific program. It was well attended by the members of the society and the Chicago profession as well as the members of the United States Army Medical Department, making a representative gathering of the military and civil portions of the medical profession.

Major Phalen read a paper on the organization and objects of the medical reserve corps. The paper explained fully the duties and the benefit expected from the medical reserve corps.

The paper will be published in full in the transaction of the society as soon as permission is obtained from the war department.

The resolution introduced at the Des Moines meeting and made a special order of business for this meeting to the effect, that membership in the county society where the applicant resides is necessary for membership in the Tri-State Society was passed unanimously.

The arrangements between the Tri-State Society and the Recorder entered into by the officers were ratified. This includes a clause to the effect that a subscription to the Recorder is included in the dues, but if the dues for the current year are not paid the journal is discontinued. Therefore those who desire to remain members of the society will be under the necessity of paying up promptly.

The officers elected for the next year are: A. B. Middleton, of Pontiac, President; Dr. E. P. Sloan, of Bloomington, Vice-President for Illinois; Dr. Granville Ryan, of Des Moines, Vice-President for Iowa; Dr. G. Wilse Robinson, of Kansas City, Vice-President for Missouri; Dr. Charles H. Parkes, of Chicago, Secretary-Treasurer. Kansas City was selected as the next meeting place.

MARRIAGES

Dr. Charles H. Cretzmeyer, of Algona, to Miss Bertha Henry, of Oskaloosa, at Algona, October 14th.

Dr. Raymond R. Kulp, of Davenport, to Miss Marie Miller, of Fort Wayne, Indiana, at Fort Wayne, October 12th.

Dr. Joseph H. Whiteley, of Bonaparte, to Miss Nellie E. Linder, of Libertyville, at Des Moines, October 27th.

BIRTHS

Dr. and Mrs. Ralph E. Keyser, of Marshalltown, a son, October 18th.

DEATHS

William Beatty, M. D., formerly a practitioner at Dow City and at Dunlap, died in Omaha, Neb., October 13th.

John Leon Parker, M. D., University of Michigan, Department of Medicine and Surgery, 1899; Member of Iowa State and Floyd County Medical Societies; President of the Cedar Valley Hospital, died suddenly at his office in Charles City, October 15th, aged forty-five.

Steven M. Cook, M. D., College of Physicians and Surgeons, Keokuk, 1878; a practicing physician for nearly forty years at Belle Plaine, died at his home in that place September 30th, aged eighty.

B. F. Hall, M. D., formerly a practitioner at Elkader and Dubuque, later at Rock Island, Ill., died at Augustana Hospital, Chicago, October 24th, from pernicious anemia, aged sixty-two.

James W. McLean, M. D., Rush Medical College, 1869; Fellow of the American Medical Association; Member of the Iowa State and Fayette County Medical Societies, a practitioner for over forty years in Fayette county, died at his home in Fayette, October 4th, after a month's illness, aged seventy-two.

At the regular meeting of the Fayette County Medical Society held October 5th, the following resolutions relating to Dr. McLean's death were adopted:

The Fayette County Medical Society sincerely and deeply regrets having to record the death of one of its honored members, J. W. McLean, M. D., of Fayette, Iowa, one of its active members since 1874, who always took an active interest in the affairs of the Society having served as its President, and filled other offices of trust in it.

Wherefor be it resolved by the Fayette County Medical Society: That we regret the death of Dr. McLean, and extend our warmest sympathy to the surviving members of his family.

That this resolution of respect be sent to his family and to the Journal of the Iowa State Medical Society, and a copy filed in the records of the Fayette County Medical Society, and published in the county paper.

DR. G. D. DARNALL,
DR. J. D. PARKER,
Committee.

CHANGES OF LOCATION

Dr. A. J. Peterson, of Spicer, Minn., has located at Forest City.

Dr. Merle Bones, of Hynes, has removed to Albia, where he will serve on the medical staff at the Miners' Hospital.

Dr. R. P. Berry, a practicing physician for twenty-seven years at Clermont, has located at West Union.

Dr. A. L. Linquist of Stanton, has gone to Omaha, where he has a position in the South Omaha Hospital.

Dr. W. L. Griffin, of Floyd, has removed to Charles City, where he has taken the practice of the late Dr. J. L. Parker.

Dr. Harry C. Parker, of Dubuque, after an absence of twenty years practicing in Boston and Indianapolis has returned to Dubuque for the practice of his profession.

Dr. H. J. Wickman, of New Sharon, has purchased the practice of Dr. Dick at Storm Lake.

Dr. M. S. Corlett, formerly of Racine, Wisconsin, has located at Westgate, Fayette county.

Dr. J. A. Johnson, of Dale, Illinois, will locate at Stanton, taking the practice of Dr. Lindquist.

Dr. J. D. Watson, of Welton, has sold his practice to Dr. John Rusk, of Bloomfield, Missouri. Dr. Watson will remove to Royalton, Minnesota, to enter into partnership with his brother, Dr. Alex Watson.

Dr. J. M. Brooks, for many years, a practitioner at Newell, will remove to Chicago.

Dr. F. S. Carey, of Kansas City, has located at Williams.

Dr. J. H. Lawder, who practiced for many years at Afton, has removed to Des Moines.

Dr. W. H. Ryder, a practitioner for many years at Clinton, will soon remove to Long Beach, California.

MEDICAL NEWS

Dr. G. L. Day, of Lone Tree, has been seriously ill.

Dr. E. J. Shelton, a pioneer physician, of Bloomfield, is seriously ill.

Dr. E. N. Osnes, of Joice, sustained a fracture of the arm when the auto he was driving overturned.

Dr. L. S. Goin, of Manilla, has sold his practice and will take a post graduate course in Philadelphia.

Dr. Hugh Tamisiea, of Missouri Valley, while cranking his car a few days ago, fractured his right arm.

Dr. E. T. Kegel, of Iowa City, fractured his left leg above the ankle while cranking his automobile, recently.

Dr. O. F. Parish, of Grinnell, has been appointed a first lieutenant in the Medical Reserve Corps of the United States army.

Dr. E. J. Van Metre, of Tipton, suffered three fractured ribs and a bruised shoulder recently when his car skidded and turned turtle.

Dr. J. Rudis-Jicinsky, formerly of Cedar Rapids, who has been doing Red Cross work in Serbia for the past year, has returned to Chicago.

Dr. Henry Matthey, of Davenport, who some months ago went to the war zone, has been appointed surgeon-in-chief of the German Army Hospital near Koeningsberg, Prussia.

Dr. Clara Whitmore, of Sioux City, who has been the house physician at St. Johns Hospital of that place for some time, has gone to Shanghai, China, where she will have charge of surgery and gynecology at the Margaret Williams Hospital.

Dr. L. L. Henninger, Council Bluffs, was a passenger on a train that was held up by Mexicans near Brownsville, Texas, recently. Dr. Henninger is reported to have succeeded in hiding his money before the bandits entered the coach where he was riding and only lost his grip, coat and some jewelry.

Beginning with the January, 1916 Number, The Journal of Cutaneous Diseases including Syphilis, will be published for the American Dermatological Association by W. M. Leonard of Boston. Each number will contain eighty pages and as far as possible be of interest and value to the general practitioner as well as to the dermatologist.

Verily the way of the advertising specialist is set about with thorns. On Monday, October 15th Dr. W. O. Coffee, of Des Moines, who advertises as an eye, ear, nose and throat specialist all over the United States, filed a petition in bankruptcy. The palatial home on west Grand avenue which represents an outlay of about \$100,000 is in the name of Mrs. Coffee and is thought to be exempt.

At the recent meeting of the American Association of Railway Surgeons in Chicago, Dr. F. T. Fort, of Louisville, Ky., was elected President; Dr. J. M. Dodd, of Ashland, Wis., First Vice-President; Dr. E. H. Griswold, of Peru, Ind., Second Vice-President; Dr. C. P. Frantz, of Burlington, Ia., Third Vice-President; Dr. Lewis J. Mitchell, of Chicago, Ill., Secretary, and Dr. H. B. Jennings, of Council Bluffs, Ia., Treasurer.

The Iowa Bureau of Vital Statistics, reports that during the first six months of 1915 there occurred in this state 11,780 deaths. Of these, Organic Disease of the Heart caused 1,348; Pneumonia, 1,018; Cancer and other Malignant Tumors, 851; Nephritis and Brights Disease, 814; Apoplexy, 805; Tuberculosis all forms, 684. It is encouraging to see the decline in the death rate from tuberculosis—this cause of death now occupying sixth place.

HOSPITAL NOTES

The Miners' Hospital at Albia, has been enlarged so that its capacity is more than doubled. Dr. Merle Bone, of Hynes, has been added to the medical staff.

Mercy Hospital, of Mason City, netted over \$700 from a recent tag day solicitation.

Drs. J. M. Griffin and T. E. Gutch, of the United Mine Workers' Hospital, of Albia, have purchased

the Drake University Medical Building, 406 Center street, Des Moines. The building will be remodeled for hospital purposes and will be known as the Iowa Industrial Hospital of Des Moines. The medical and surgical privileges of the hospital will be open to the industrial organizations of this locality on the same plan as is carried on for the United Mine Workers at Albia, Iowa. The capacity of the hospital will be about 150 beds. Safety first teams are to be established in the mines and industrial centers of the city. A dispensary also will be operated. The hospital will be opened to any licensed physician. Dr. J. M. Griffin is the superintendent.

At the meeting of the Iowa Methodist Hospital Association, October 19th, the following were added to the board of directors: C. S. Walker, Geo. A. Smith, Geo. G. Hunter, Chas. Wharton, all of Des Moines; Henry Wagner, Ankeny, and P. F. Arney, of Marshalltown. After adjournment of the Hospital Association the board of directors met and re-elected the following officers: E. D. Samson, President; the Rev. John L. Hillman, Vice-President; W. H. Cable, Secretary; R. A. Crawford, Treasurer; W. T. Graham, Hospital Superintendent, and M. G. Shike, Accountant and Cashier.

A CORRECTION

On page 465 of the October issue under the heading "Dr. James Taggart Priestley, Dean of Iowa Physicians," a list of the first ten physicians licensed in Iowa was given and the statement made that the first eight of these had passed to their reward. Through some oversight in proof-reading it was not noticed that this list contained the name of Dr. Henry H. Clark McGregor, who has certificate number four. Now it so happens that Dr. Clark is very much alive and our regrets are hereby tendered him for the error. Dr. Clark is to give the Oration on Surgery at the Davenport Session next May.

1916 DUES

As it will soon be time for the payment of the 1916 dues this opportunity is taken to refresh the members memory. Owing to the extraordinary number of malpractice suits defended in 1913 and 1914 the House of Delegates at the 1915 session at Waterloo levied a special assessment of \$1.00 per member to be collected with the 1916 dues.

Therefore the Iowa State Medical Society dues for 1916 will be \$5.00 per member, apportioned as follows: General Society expenses including the Journal \$2.00; medico-legal fund, \$2.00; special assessment for 1916, \$1.00.

The dues are payable January 1st and members whose dues are not received by February 1st are suspended.

The 1916 dues should be collected during November and December so that the County Secretaries may remit to the State Secretary before the first of January.

The Journal of the Iowa State Medical Society

Vol. V

DES MOINES, IOWA, DECEMBER 15, 1915

No. 12

WHAT IS THE MATTER WITH US?*

J. E. LUCKEY, M. S., A. M., M. D., Vinton

We confess that our title has a very broad application and for that reason it serves the purpose well in a paper that may lack unity.

Whenever a first class surgeon finds that his mortality rate is high, or that the percentage of operative wound infections is marked, he immediately begins vigorous investigations. Everybody and everything in the slightest manner connected with the patients and the operations is investigated. The surgeon will have a brother surgeon stand by to observe and criticise every detail of technic. Every thing passes at its true worth. Sentiment cuts no figure. What is proven faulty must go. Now this is the spirit that should govern every medical man. It is the spirit the ordinary general practitioner should cultivate.

A man's environment must necessarily limit his accomplishments, his growth and his method of work, but not to the extent we pretend to believe. The reputation with the laity of the medical profession depends on the general practitioner, or "family doctor." The laity's present attitude toward the profession is largely due to its shoddy work. When the difference between the quack and the regular practitioner who assumes superiority is not apparent, it is not surprising that the people credit the quack who claims everything. The family physician who complacently sits by and because of an assumed conservatism, which is too often ignorant inactivity, allows an acute osteomyelitis to go on and unnecessarily cut off a young life or maim it forever, has no right to claim superiority to the osteopath or his full brother, the chiropractor. The man who fills up his patient on salicylates for rheumatism, and neglects to search for the true source of infection, shows that he is ignorant of the progress of medicine during the past decade.

We appreciate the difficulties the medical man of broad views has in competitive practice. He does more than any other man in educating the dear unappreciative people in health matters and

more by careful, early diagnosis in preserving health and saving life. The commercial treatment of medical education up to a few years ago caused an over-production of practitioners with low ideals and poor training who are a real detriment to the profession. For these, either as general practitioners or as specialists, there is no good defense. To this class of men more than any other cause is due the lack of solidarity which is one of the really serious things that is the matter with our profession today.

Refined modern diagnosis demands so much "team work" we must all recognize our mutual dependence, specialists as well as general practitioners. By specialist we do not mean the fellow who guarantees for an enormous fee to cure a case of dementia praecox by circumcision; or the man who rushes off a woman to an untimely and costly operation on a torn fourchette when the cause of her trouble is an advanced tuberculosis. By specialist we mean a man of the best professional training in his particular line of work. In certain localities in the recent past the specialist has recognized his dependence by certain pecuniary considerations not tolerated in the best medical society today. The general practitioner has only too often forgotten his high calling that he might play the part of a sycophant and put money in his purse. But our present day professional morality has changed and we now consider it wrong to make a secret division of the fee. Some of our great men assume this attitude who have not always held it, not because they are better men but because they have a better reputation among the laity and their income is secure. Most of the profession have awakened to the real dangers and the wrong of fee-splitting. The whole system evidently sprang from the disproportion between the fee of the family physician and the fee of the specialist. It is folly to say that the man who can properly treat a complicated fracture or properly conduct a difficult labor is inferior to the man who can properly do an appendectomy. But behold the contrast in fees. It is outrageous that the general practitioner should be compelled to take the dregs or

*Read before the Sixty-fourth Annual Session, May 12-13-14, Waterloo

nothing from the purse depleted by the stupendous fee of the specialist (who may not even be an expert). If the general practitioner is the competent diagnostician he should be and if he is able and willing to give the right treatment to the patient or to secure it for him, then he is entitled to a greater proportion of the allowance for medical services due from the family in ordinary financial circumstances than has been accorded him by either the specialist or the laity. We believe that this with other matters will ultimately be settled by the education of the laity.

This education of the people in late years has been stimulated by the campaign against tuberculosis. Anti-tuberculosis literature has made well-read citizens so well informed on the laws of health and the principles of preventive medicine that they very often justly criticise the professional conduct of medical men. We are not happy to have the laity asking what is the matter with the doctor. Without doubt the tuberculosis problem is one of the greatest we have to solve. At times one might think that the rank and file of physicians had lost interest in the problem. Should this prove to be the case it would be unfortunate for the profession, for the laity are intensely interested and they will not tolerate indifference on our part.

For personal reasons as well as professional, I have been intensely interested in this subject of tuberculosis for years and have gathered many facts from my own patients and from conversations with graduates of tuberculosis sanatoria, practitioners and specialists in tuberculosis. After years of this sort of investigation, including repeated visits to sanatoria, I am convinced that the problem is largely one of "the physician himself." As Coutant has said, all education of the laity will be lost until we educate physicians to make early diagnosis. Should you have access to the records of any first class sanatorium for the treatment of tuberculosis you would find ample evidence to convince you that not only the ordinary practitioners but some of the most prominent men in the profession are failing to make sufficiently early diagnosis of tuberculosis. The early diagnosis is the one altogether worthwhile for it saves life.

The graduates of good sanatoria are especially good educators of the people. They learn what the physician should do. They know what constitutes a physical examination and why it is necessary. They know that it does not consist in sitting off some distance from a patient and merely asking questions without so much as offering to touch him. They know that the paltry fee usually asked for the farcical consultation of

the inefficient physician over-pays the services. One is impressed with the histories these people give extending back for many years, frequently into childhood of having had recurring attacks of "grip," or repeated "colds" and "bronchitis," or of having had "stomach trouble" and "liver complaint." "Walking typhoid" is mentioned by some. "Nervous prostration" is very frequently reported. So also is "malaria." After listening to a great many such histories one can readily believe that "the whole pathology of adults demonstrates only chronic processes or reinfections or terminal stages of the disease, the beginning of which must be referred to childhood."

Some of the histories we have investigated during the last few months convinces us that right here in enlightened Iowa we are not doing our full duty. One bright young lady school teacher in a sanatorium said she had consulted the best physician in her town a few months previous to entering the institution and he had assured her that she was suffering from intercostal neuralgia of the arm but made no examination which may account for his being certain that she had "intercostal neuralgia of the arm."

Another case who consulted us was a young married man with very clearly defined physical signs of tuberculosis who had just returned from a sanatorium, where he had been classified "advanced." On his return home his family physician had assured him that he did not have and *had not had* tuberculosis. He then consulted four other physicians, and two of the four said he did not have tuberculosis and two said he did have tuberculosis. The poor fellow was distracted. What was he to believe? These physicians were the leading men of his county and all of them members of the Iowa State Medical Society. Tubercle bacilli were readily demonstrated in this man's sputum and the physical signs were so plain that a novice should have made the diagnosis, and yet three out of five reputable physicians denied his having tuberculosis.

The history of a pharmacist about twenty-eight years old, and a sanatorium patient, gives food for thought. When ten or twelve years old he had pleurisy on the left side. He has been subject to "grip" every winter and to quinsy frequently. Ten years ago during the winter he could talk only in a whisper (laryngitis). Four years ago he had "jaundice" and was sick two months with what his physician called "walking typhoid." Since 1904 he has had a cough and for years a summer diarrhoea. He said "I never had a doctor outside the sanatorium ever offer to examine me." Note the warning signals

in this man's life from childhood unheeded by every physician who ever treated him. Small wonder that this man is "sore on the profession."

Here is another case from a sanatorium. Miss A, twenty-five years old, a school teacher, says "I was never sick a day until nine months ago." Now note her self-contradictory statements which emphasize the necessity of great care in taking these histories. "I have always been subject to 'colds' and have been so tired for the last year or two." "Four or five years ago I did have 'liver trouble' and consulted a doctor who gave me *no examination*." We are justified in believing that this young lady had tuberculosis for several years but the incipient stage was passed over by her careless or ignorant physician. She was found to be "advanced" when she entered the sanatorium.

We give here a table compiled at the State Sanatorium at Oakdale and already published in one of the reports of the Board of Control. This table furnishes scientific data for the conclusion that our diagnostic work is inefficient.

Table No. 1.—Actual Stages of Last 200 Patients Received

111 Patients Classified Incipient:	
Proved incipient	27
Proved moderately advanced.....	47
Proved far advanced.....	37
86 Patients Classified Moderately Advanced:	
Proved Incipient	6
Proved moderately advanced.....	35
Proved far advanced.....	45
3 Patients Classified Far Advanced:	
Proved incipient	0
Proved moderately advanced.....	1
Proved far advanced.....	2
Actual Condition on Admission of 200 Patients:	
Incipient	33
Moderately advanced	47
Far advanced	84
200 Patients Classified on Application:	
Incipient	111
Moderately advanced	86
Far advanced	3

What is the matter with us? Can we recognize the physical signs in a diseased chest? Have we a clear cut conception of the signs and the symptoms in each stage of tuberculosis? Are we downright ignorant or are we careless? How are we to explain that of 111 patients classified incipient only twenty-seven were really incipient while the other eighty-four were in the advanced stages? In the advanced stages there were nearly 50 per cent. of mistakes which may not be so serious to the poor victims for the great majority at this time must rely on the "grace of

God" for any future benefits. When the laity fully realize that about 75 per cent. of incipient cases should be arrested or cured they will have something startling to say about such deadly blunders.

We had been informed that Iowa physicians were paying more attention to diagnosis. We are delighted to hear this; we would be more delighted to believe it applied to the diagnosis of tuberculosis. We requested a report on the last 100 patients received at the State Sanatorium at Oakdale up to the last of April, 1915, so that we might have some reliable data upon which to form a judgment. The records show the complications diagnosed correctly in thirty-three cases out of 100, and diagnosed incorrectly in the remaining sixty-seven cases. (67 per cent of mistakes.) Such complications as nephritis, cardiac lesions, tuberculous enteritis, tuberculous laryngitis, etc., were found when present and not found when absent in these thirty-three cases; while in sixty-seven cases they were either not found when present or were reported present when they did not prove to be present.

Report of 100 Cases, April 28, 1915

43 Cases Classified on Entrance Incipient:	
Proved incipient	14
Proved moderately advanced.....	19
Proved far advanced.....	10
51 Cases Classified on Entrance Moderately Advanced:	
Proved incipient	7
Proved moderately advanced.....	19
Proved far advanced.....	25
6 Cases Classified on Entrance Far Advanced:	
Proved incipient	1
Proved moderately advanced.....	1
Proved far advanced.....	4

It is strange that seven incipient cases should be classified moderately advanced out of fifty-one. In the former report only six of those reported (86) moderately advanced were found to be incipient.

Judging from this last report there is no marked improvement in diagnosis. These figures show the same old rotten work in early diagnosis. Thirty years ago a diagnosis of tuberculosis meant death. Such is not the case today, if diagnosed in time. It is gratifying to learn that the mortality from tuberculosis is growing less in Iowa, but if we accept the above reports as correct, we certainly can not attribute it to superior skill on our part. We believe that the slightly downward course of the death curve is due in no small degree to the education of the people themselves. However, we must not forget that there are very many physicians in Iowa

who are doing good, scientific work in daily practice, and to them much credit is due for any improvement in any line of medical work.

Several weeks ago a physician who is devoting his life to tuberculosis problems, expressed the opinion to me that in the near future a physician would be held legally responsible for neglected diagnosis in tuberculosis just as readily as at present for mal-practice in treatment of fractures. At present, a patient breaks his leg; he shows two or three inches shortening and proves bad treatment; he gets damages. In the near future, a patient is slightly indisposed and his physician gives him little attention and makes a faulty diagnosis; the patient proves he had tuberculosis; the patient's heirs prove twenty or thirty years shortening and recover heavy damages. This is not far fetched. We are informed that life insurance companies are taking up this question. We must exhaust every means of diagnosis at our command in order to relieve ourselves of liability. The inconvenience of one day or of several weeks necessary for making proper investigations and study of a case need not deter us. We are better off to have nothing to do with patients who refuse to accede to our reasonable demands than to lay ourselves liable.

The highest authorities agree that the successful treatment of tuberculosis depends chiefly on an early diagnosis. The theory that tuberculosis is eminently a children's disease has been gaining many adherents in late years. In 1903 von Behring laid the greatest stress on the cause of adult tuberculosis being due in a large percentage of cases to the occurrence of infection in early childhood. Although this great frequency of latent tuberculosis in childhood according to Schlossman ('08) need not cause grave apprehension, it does lay a load of responsibility on the general practitioner who is the sole health officer or health supervisor of the family during the pre-school age and during the school life of the average child. The preservation of the health of children is of immense economic and educational importance. The practitioner of the future shall pay marked attention to this problem; the practitioner of the present must pay careful attention to it or lose his professional prestige. The greatest factor in the preservation of human health and life will be found in public school education along health lines and in an efficient system of medical inspection of schools. This is certainly coming and is already here in many places. The medical profession should unite in hastening it throughout the State of Iowa. This will meet with opposition from all the irregular practitioners who will see their doom in the ef-

ficient knowledge of health laws that such education shall produce; but it will come just the same. After a few generations the results will be perfectly apparent to all in the general improvement of the health of the masses, and the really intelligent legislation that shall follow at the hands of representatives who know things about the laws of health, and the economic value of their consideration.

With a well trained medical profession, on the alert for early diagnosis, and a laity educated to follow their directions implicitly, the practical control of tuberculosis seems but a question of time.

There are those who would have us believe that the general practitioner can not do diagnostic work of a high order. We are very ready to concede that it may be necessary to refer at times to *real experts* for refined diagnosis, but the general practitioner with modern, efficient training should be able, and is able, to do most excellent diagnostic work. The pseudo-expert, and wily quack have thrived, and grown fat on our neglect of diagnosis, and also our neglect of prognosis. It is time now for the ordinary practitioner to realize that his very existence depends on his efficiency in this neglected field which is peculiarly his own. We appreciate that we can not become infallible. Each and every one of us has found, does find, and shall find, cases that he does not diagnose for some reason, sufficient or otherwise; but for the sake of humanity, let them be as few as possible, and far between.

Discussion

John H. Peck, Des Moines.—Dr. Luckey, in a forceful and energetic manner, has gone into this subject most thoroughly, and I think we should have free discussion of his paper.

No less an authority than Osler has stated that the family physician is the most important factor in the eradication of tuberculosis, since he is the first to be consulted when illness arises, and his opinion is always the first to be secured. This fact will bear extremely strong emphasis, and, indeed, is there a more important single principle in the diagnostic question of today? In the future the responsibility for the recognition of this disease may be placed upon special agents chosen for this work. But until this, or some other innovation, is adopted, the indisputable fact remains that in this country the family physician, whether he wishes it or not, whether he realizes it or not, stands almost alone in the front rank, opposing the advance of tuberculosis. Surely this is no light responsibility. We look askance at the large number of deaths reported in Iowa last year as due to pleurisy and bronchitis—about 30 per cent., as many cases as were reported due to pulmonary tuberculosis. Does any one believe that

bronchitis directly causes death? Are we not striving for the impracticable, and perhaps the unattainable, when we attempt to train the general practitioner, with his multiform duties, to invariably detect early tuberculosis? The aftercare of the consumptive is the weakest point in our system today, and little of a permanent nature has been accomplished because of this defect. It is all very fine to refer cases to Oakdale and have the progress of the disease arrested. But we have all seen these patients come and resume their former habits of living, and when death ensues the institution as well as the physician get the blame.

The care of the child, as indicated by the essayist, is the root of the problem in dealing with tuberculosis. Formerly we sent our tuberculous patients far away from home, hoping change of climate would accomplish the impossible, and we carefully refrained from telling the early cases that they had tuberculosis for fear the shock of this knowledge would destroy their chances of recovery. It is the function of the general practitioner to make early and accurate diagnoses in order that treatment may be prompt and efficacious.

Frank M. Fuller, Keokuk.—The force and vigor with which Dr. Luckey has presented this subject, made me feel that he ought to have changed the caption of his paper. Down at Keokuk the boys had a yell like this:

"Quinine, strychnine, blood and pus,
What in h—I is the matter with us?"

And so it seems to me that in view of the way in which the essayist has presented his subject, he should have been somewhat more emphatic in his caption. It was as though he told the profession to please stand up and criticize itself, just as it strikes a knife into the body without regard to anything save that it gets the desired results. Dr. Luckey simply followed the president in his address, giving us criticism in regard to some of the conditions in our medical life; he followed one of the papers in which we were criticized in regard to errors in the taking of blood pressure. And as I thought of this word **criticism**, it seemed to me that Dr. Luckey had brought an indictment against us. And, so we should not pass this thing over lightly. Has Dr. Luckey told us the truth, or has he simply related a fairy tale? If true it is an indictment against us, and we will plead to it. Are we pleading **guilty** or **not guilty**? If we plead guilty, what is the matter with us? If we are sending carelessly diagnosed patients to Oakdale, what is the matter with us? I have sent some forty patients to Oakdale in my own practice and through the fact of being an examiner. And, the question comes to me, "How many of my patients that were sent up there as incipient or as not far advanced, are far advanced?" Am I making this mistake?

I will tell you what I think is one thing back of this. We fail to recognize the fact of individual responsibility to our patients. I think we attempt to do too much. If we are doing a particularly large

amount of work we get tired, the examination of patients gets to be routine, and the tendency oftentimes is to forego our individual responsibility to the patient, forego to place the patient in our position, and ourselves in the patient's position. How vital it is to them for us to find out these things—how vital to find out and not say, "A cold," or, "Bronchial trouble."

Another thing that I think is the matter with us, and that is the fee. And I think the matter with us in regard to the fee is ourselves. We are not demanding the fee that we are entitled to. The men throughout the country, particularly in the rural districts, are not getting the fee to which they are entitled, and which the people are willing to pay. I have gone out and sat in offices as patients came in and have seen them pay the doctor twenty-five cents for a package of medicine or fifty cents for a little consultation! It is not right for us to allow the people to consider that we are doing work in an easy sort of way. We ought to make the people realize that we are giving service worth something, and then when we give them that service they will expect to pay for it. We never find any one who gets something for nothing who will consider that the something is worth anything to him. And that is where we are subjecting ourselves to a just criticism.

Another thing is that we do not do as well as we know. Too many of us are not really carrying home and into our practice the very things that we have learned here in the last three days, we are not making the effort, we are too often indolent. We do not make near the effort to apply those methods of diagnosis which we have learned in our medical societies, that we do to apply those obtained from clinical work or through instruction gained directly from the literature.

Pauline Myers Townsend-Hanson, Marshalltown.—The essayist suggests the possibility of damages being awarded in the future because of lack of diagnosis, I really do hope that the public may come after the physicians for damages for lack of diagnosis, just for the sake of the effect that it will have, must have, upon both physicians and the public. But let them come after the physicians for lack of diagnosis not only in tuberculosis, but in each and every other of the many, many subjects upon which physicians are expected to be thoroughly competent, and then when they sue for lack of right diagnosis, let the medical profession itself and the public also wake up to the fact that no human being can do the impossible. The impossible for a physician is to diagnose everything correctly, or even to be an expertly good diagnostician on all the subjects that offer in the wide field of medical work. This question of right diagnoses is not a problem for us any more than it is for the public. It is their business to have such a system as makes possible the best scientific attention in their cases—it is their business just as much as it is the business of the medical profession.

It is the most natural thing in the world to go

home from a state medical society meeting and feel, "Oh, well, I don't believe I want to have to diagnose in that line of work because I know I am not competent, I can't take a year or two or three years to make myself competent, and I don't want to have to diagnose it;" and then there is Doctor So-and-So's paper on such a subject; and you don't want to have to make a diagnosis along that line because you feel that you are not up to the best in that field of work. So by the time you go over your session of the State Medical Society you do not have to go to the meeting of the A. M. A. in order to get that sort of feeling very strong; in fact, you go home feeling as though you would like to retire from practice.

For ourselves and for society we lack system, our medical work is about where school teaching was 100 years ago. No school teacher can qualify on music and drawing and history and art and mathematics and science—they don't try to do it, they know better. One hundred years ago they worked as individualists. Very few people were well educated, the greater part had no schooling at all. Agitation was begun for a co-operative system, supported by the public, in which they might have experts in each line, people especially conversant with and trained in those lines, to instruct the pupils. We have it, and all people are better educated. The medical profession can never make thorough and proper diagnosis in all these different lines until we institute **system**, and we, that is, the physicians themselves, unaided by the public, cannot institute system; all we can do is to educate for it, because it is a social question. It is a system that will have to be paid for by the public, and being public business and having to be supported by public funds as schools are supported by public funds, it becomes a matter of social economics.

W. A. Rohlf, Waverly.—When I awoke this morning, and breathed in the balmy atmosphere, washed by the midnight showers, and beheld the beautiful sunshine, and heard the music of sweet throated birds, and inhaled the perfume of the beautiful flowers, I really felt that life was worth living.

I walked with elastic step to this place of meeting, an optimist, satisfied with my surroundings, proud that I was a member of the State Medical Society of this great State of Iowa.

I entered this sanctuary and listened to Dr. Luckey's paper, and the wholesale indictment of the Iowa profession gave me quite a jolt. Being an optimist still, I think probably a little Colfax water, or something of that sort, is what he needs, or perhaps he was out a little late last night. However, I find that everybody who has discussed this paper administered a worse dose than that prepared by him.

I rise simply to say that "behind the clouds is the sun still shining." I am, however, willing to admit that there may be something lacking in some of the members of the profession of Iowa at some time;

that there may be something the matter with us, as with Luckey this morning. I know that he is not always affected by such a spirit of despondency, and that his liver is not always so intoxicated as it seems to be this morning. I know him to be a real optimist.

I do not understand why we should permit the profession as a whole to be indicted or crucified, as it were, because of the mistakes and carelessness of some of the members that do the kind of work so severely criticised by Dr. Luckey, or so energetically flailed by Dr. Pauline Meyers Townsend-Hanson.

I feel that this criticism and this indictment perhaps may be coming to those who do not attend the Society, who stay at home—the fellows who are not alive—to those, in fact, who slumber professionally. I contend that the indictment does not apply to the rank and file of the members of this great State Medical Society of Iowa.

Dr. Luckey.—I do not know that I have more to say. Perhaps I have already said too much; but we are not a mutual admiration society, we are here to profit by just and friendly criticism. It has been shown in this paper that 67 per cent. of mistakes have been made in diagnosis of tuberculosis. Be assured that all the men who made these mistakes are not at home. Some of the greatest offenders have been right here, or I could not get you to sit up and take the notice you have this morning.

With due respect to the lady who has spoken, I do feel like criticising anyone who even appears to defend our blunders. Great God of love! with sixty-seven cases out of one hundred wrongly diagnosed, have we any right to say we are all right?

Some one here has implied in his remarks that the general practitioner can not become an expert diagnostician. This doctrine is a curse to the general practitioner today. He comes to these meetings and listens to such expressions and then concludes that it does not make any difference what he may think or do. He meets some professed experts who say to him, "My dear fellow, you can't diagnose this condition, you can't treat this fracture, you can't do this, you can't do that, bring the case to us." He wonders what remains for him to do. Back in the annals of our history we find that he took his patients to the expert who noticed his weak, emaciated form and the patches on his breeches and then he, the expert, said, "Here, you poor devil, I'll give you a little of my fee; I'll take every cent the patient has and when he reaches home he will have none for you, so I'll divide fee with you." And the poor fellow with hunger grinding in his stomach, accepted the fee and thought it was honest and all right, until bye and bye he found it was all wrong.

The general practitioner can become a diagnostician and do efficient work in 95 per cent of his cases without expert assistance. If any of you go home thinking you can not, you will come back here next year just as poor financially and scientifically as you **are now**.

PELVIC NEOPLASMS IN PREGNANCY*

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The pelvis of the human female is the ideal habitat and the lurking place of almost all the neoplasms known to the human race. Had her pelvis been a perfect anatomical structure, menstruation, conception, pregnancy, the delivery, the puerperium and the menopause would have been a cycle physiological in its nature.

But ever since the time when our illustrious ancestors ceased walking on a horizontal plane and assumed the perpendicular position, there has been a constant struggle on the part of the human female to adapt or to adjust the function of parturition to the only anatomical apparatus that was available for the performance of that function. The perfect adaptation of function to structure has not as yet been reached; hence pathology is strewn all along the pathway.

When from the study of the principles of genetics, the inheritance of racial qualities, as formulated in the Mendelian research work, and the application of these laws to the improvement of the human race: when from the study of eugenics as founded by Galton, good birth or the improvement of the race through breeding; when from the study of euthenics, the development in the individual of nature by the process of nurture,—the controlling of environment: when by all of these means we may have assisted in the more complete evolution of the human race, then may we see as one result of that evolution the perfection of a female pelvis in which structure and function harmonize fully.

Then will the cycle of reproduction be purely physiological and the study of pelvic neoplasms coexistent with pregnancy a myth: may such a day be not far distant.

But until such a day does arrive it remains for us to do our utmost for the individual who is to take so great a part in the perpetuation of the race; and by the best of therapeutical measures and the most skilful surgical technique to relieve her of everything that is antagonistic to that end.

Almost all of the neoplasms known may exist in the female pelvis, and many of these neoplasms may coexist with pregnancy.

The tumors most frequently found coexistent with pregnancy are uterine fibroids and ovarian cysts.

Those found less frequently are:

Dermoid cysts,

Tumors with ectopic remnants as foci,

Intra ligamentous cysts.

Those found comparatively rarely are:

Carcinoma of the uterine body,

Carcinoma of the cervix.

Those rarely ever found are:

Sarcoma,

Solid tumors of ovaries,

Chorio-epithelioma.

This classification is necessarily one in which the boundary lines are indistinct, but for the purposes of study and discussion it will suffice:

As to whether the growth appeared first in the pelvis or whether pregnancy was first to occupy the territory we may not always be able to ascertain, nor is this knowledge always necessary; in fact it may often be set aside as immaterial in the consideration of the best means of treatment.

Nature seems to put forth her every effort to replenish the earth in regard to its population; and often in her strenuous efforts to accomplish this result she implants the germ in soil that seems altogether unsuitable for its growth. Often she is successful in her conservation of energy and her adaptation of environment. In that this germ grows and develops and eventually comes forth and takes its place as a link uniting past and future generations of human beings.

Uterine fibromata are so common that they are found in the body of one out of every five women over thirty-five years of age; as these neoplasms are generally slow in formation this would necessarily bear the interpretation that a great percentage of them may be found within the childbearing period, and from this the deduction would necessarily follow, that many of these tumors coexist with pregnancy, more in fact than we have hitherto recognized; and that conception often occurs during lifetime of their tumors.

It is not an infrequent occurrence for pregnancy to take place from a normal ovary when a cystic tumor already exists in the opposite ovary, a simple retention cyst, single or multiple and these may grow to an enormous size during pregnancy.

Dr. Geo. W. Kosmak (April, 1915, p. 681), reports a case of early ectopic pregnancy associated with double ovarian cysts. Or there may be a dermoid cyst of one ovary and pregnancy may occur from the normal ovary; or remnants of ectopic pregnancies may form a nucleus for neoplasms as shown by examination of 1,200 specimens recorded as fibroids, in which an estimate was made that 4 per cent. were ectopic gestations.

Cullen makes the following statement:

The occurrence of pregnancy during the course of carcinoma of the uterus although not common is no great rarity.

*Read before the Section on Ophthalmology, Sixty-fourth Annual Session, May 12-13-14, Waterloo.

But, he continues, because the discharge in carcinoma of the cervix is peculiar to itself and therefore foreign to the environment in which it is found, pregnancy is not so liable to occur as though the environment were a normal one, pregnancy may take place following curettage when for the time being the foreign discharge of carcinoma of the body of the uterus is not present.

Statistics show that one case of carcinoma uteri complicates every two thousand labors. But in carcinoma of the uterus one in every hundred was pregnant; the foetus usually being lost before full term.

Findley states that cancer is rarely a complication of pregnancy because the cancer period follows upon the period of fertility in the majority of cases.

Sullivan, in reporting a case of pregnancy and labor complicated by carcinoma of the cervix uteri expresses himself thus: "Cancer complicating pregnancy and labor is of such rarity and the calamity of such a complication is so grave that it excites the deepest interest and concern."

Cohnstein reports that out of 134 cases of pregnancy coexisting with carcinoma of the cervix 17 per cent. gave a history of the carcinoma being present before conception had taken place.

Solid ovarian tumors are rare in pregnancy; Hellman reports that in looking over the tumors of the ovaries following operations at the Fraenklinik of Berlin during the last ten years, he found no sarcomas, six fibroids, but many epithelial tumors, and Findley writes that he has never seen a case of solid ovarian tumor complicating pregnancy.

The malignant neoplasm known as chorioepithelioma, or, as I prefer syncytioma malignum, is found very rarely (associated with pregnancy) and then usually during the latter portion of pregnancy or closely following delivery. This rare neoplasm is always found closely interrelated with pregnancy and dependent upon it for its existence. And while this tumor is often never seen in the ordinary term of a physician's life, yet he must always be prepared to recognize its presence and to act immediately upon its recognition.

III Etiology.—The same etiology that accounts for tumors of the pelvis in general may account for those complicating pregnancy; exceptions being chorioepitheliomata and fibromata containing remnants of ectopic pregnancies. To these we might add some instances of carcinoma of the cervix whose history has begun with cervical lacerations occurring in delivery.

IV. Diagnosis.—When pregnancy is asso-

ciated with a neoplasm of any kind the symptoms of both are generally aggravated.

Benign tumors increase in size more rapidly and malignant growths as a rule show a more rapid progress. The location of the tumor often controls the symptomatology.

However this may be, it is imperative that a correct diagnosis be made if possible, for here are two lives to be considered instead of one; a condition far different than that in which the neoplasm exists alone. In either case the treatment must of necessity differ.

Nor is it alone necessary or of vital importance often that merely a diagnosis be made that pregnancy and pelvic neoplasm are coexistent; there must also be a differential diagnosis in regard to the class of tumor suspected to be present. If possible the conclusion must be reached as to whether it is benign or malignant; whether uterine or ovarian; solid or cystic. Its size, location, rapidity of growth etc., must also be the subject of careful investigation; for often location rather than size may control symptomatology. Often the results of close observation and painstaking investigation will be the revolution of the true condition; again the results may be unsatisfactory and void of certainty.

In the condition known as syncytioma malignum the diagnosis is based upon previous history of the case, age of patient, a recent pregnancy and clinical symptoms; and these are verified by microscopic findings. Often carcinoma of the uterus may be verified only by use of the microscope.

Of some of the recent methods of diagnosis, and the technique employed my colleague, Dr. Jessie B. Hudson, will speak later on.

V. Prognosis and Treatment.—The danger element from the presence of a tumor in pregnancy, may be made manifest by:

- Pressure symptoms,
- Rupture of the neoplasm,
- Hemorrhage,
- Torsion of an ovarian growth,
- Suppuration and infection,
- Interruption of pregnancy with, as a rule, 100 per cent. loss of life of foetus,
- Interference with labor.

In delivery these neoplasms may be particularly troublesome by forming a barrier to the advance of the child, or by preventing proper contractions of the uterine muscularis. Post-partum hemorrhage may also be due to the presence of uterine fibromata, as normal contractions may be absent. The puerperium may be further in danger by suppuration and infection.

In regard to the dangers from ovarian tumors, Barrett writes: "We are impressed with the

fact that the usual hazards of ovarian tumors are greatly increased with the onset of pregnancy; some of them being still more increased during labor and are well nigh appalling during the puerperium."

Carcinoma of the body of the uterus could not long coexist with pregnancy, for the advent of pregnancy favors the inroads of cancer as someone has tersely expressed it: 15 per cent. miscarry before viability; in 33 per cent. of the remainder there is death of the foetus during labor or shortly after. Carcinoma of the cervix frequently interrupts; if it should go to labor there is apt to be rupture of the uterus and subsequent death from hemorrhage or peritonitis.

The treatment in pregnancy complicated or associated with pelvic neoplasms may be:

1. Expectant.
2. Temporizing.
3. Interruption of pregnancy.
4. Removal of pathology.

There is but little to say in regard to the expectant or the temporizing forms of treatment in ovarian tumors; for neither the one nor the other may be entered upon and followed out with any degree of certainty, discouragements often following closely because of unexpected complications and conditions arising. But often in benign neoplasms of the uterus associated with pregnancy there is nothing else to do. In hopeless cases of carcinoma uterine also there is nothing to do but to look to the comfort of the mother and await the coming of the child to term.

And while Kelly is full of enthusiasm in regard to the treatment of uterine fibromata when they occur alone, yet under no circumstances would he use radium if these fibromata were complicated by pregnancy. And while we read from the report of Palmer Findley that the Franz Clinic has a routine treatment of X-ray in uterine fibromata, yet in no instance do they use the X-ray if pregnancy complicates. Consequently there remains nothing to be done in uterine fibroids but palliative and expectant treatment, unless the submucous fibroid becomes a polypoid or the intramural fibroid becomes a subperitoneal; in either case surgical means to remove the pathology may be resorted to and the pregnancy may subsequently run a normal course.

On the other hand this line of procedure is not justifiable in ovarian cyst, the most common ovarian tumor complicating pregnancy.

While surgery has certain general rules in regard to pelvic growths occurring alone, namely, to operate early on all ovarian tumors; to leave uterine fibroids alone until troublesome symp-

toms arise; to operate at once upon the discovery of malignant growths in the pelvis provided the malignant growth has not become inoperable and metastatic deposits from it have not already taken place. Yet surgery in pregnancy complicated by pelvic neoplasms is comparatively rare. As Dr. Barrett expresses it,—“Surgery of pregnancy is in its developmental stage.” Heretofore conservatism has been the slogan, and expectant treatment the rule; while surgeons have hesitated to enter a field so comparatively different from those that they have been wont to enter so fearlessly. To me the reason for this is obvious; in the surgery of pregnancy there are two lives to be considered instead of one; and the surgeon who would carelessly disregard the one or the other is culpably negligent and should not be entrusted with this problem in which so much of destiny is involved. And yet this certainly is an inviting field for the surgeon, and the results so far have been most encouraging.

Granted then that surgical interference is at times the proper treatment, shall it consist in the removal of the pregnancy or the removal of the pathology?

In my opinion the production of abortion with its 100 per cent. of infant mortality,—the slaughter of the innocents,—is seldom if ever justifiable in other than malignant neoplasms of the uterus or the uterine adnexa where the mother's life would be in danger if the uterus and its contents were left in situ; nor is it but seldom advisable to wait for viability of the child if by so doing there were greater risk to the mother.

Cullen writes thus: “A radical operation should be performed at once in all operable cases of cancer of the cervix; by delay the mother's life may be sacrificed and there may be but a limited chance of saving the child.”

In chorioepithelioma the treatment is always surgical; there is no other known procedure but to operate radically and immediately; and this is to be done regardless of loss of foetus should this tumor be diagnosed during pregnancy.

In surgical interference having for its object the removal of the pathology lies our greatest hope for the conservation of the lives of both mother and child when ovarian tumors of any kind are associated with pregnancy. Danforth writes that solid tumors of the ovary are exceedingly rare in connection with pregnancy, and as a rule they should be removed as soon as found; as in operation the danger to the mother is slight and the risk to the foetus is greatly lessened.

I am much indebted to Dr. Channing W. Barrett, Chicago, obstetrician to Cook County Hos-

pital, who for years has been carrying on systematized work in this particular field. Dr. Barrett has kindly furnished me with valuable data which I confidently pass on to you. His report based on a study of 114 cases of ovarian tumors complicating pregnancy, labor, and the puerperium, is as follows:

Of the 114,—76 were operated on for removal of tumor previous to full term pregnancy.

Of these 76,—73 mothers recovered.

Of these 73 mothers,—63 went to term.

Of the three mothers that died one death occurred after an exploratory puncture followed by peritoneal symptoms; one from hemorrhage of the stump of a pedunculated tumor; the third death followed laparotomy and extraction of foetus in a severe case of sarcomatosis. Of his series of 114 cases, thirty-eight cases were unoperated before term, with the following results:

One mother died before term.

Seven mothers were lost at term.

Seven children lost (one pair of twins).

Six cesarean sections were performed (two mothers and one pair of twins died).

Seven cases no operation (four mothers died).

Seven vaginal ovariectomies (one mother died, one child died).

Three vaginal punctures (one mother died).

Six abdominal ovariectomies during labor.

Three abdominal ovariectomies during puerperium.

Five cases were operated, route of operation not mentioned.

One craniotomy.

From these data Barrett's conclusions are that there is overwhelming evidence in favor of dealing with the tumor before labor sets in, and that an early operation furnishes the best result; the first half of pregnancy being the best time to operate. But if diagnosis is not made till late, operate anyway, for to operate in last half of pregnancy is better than to wait till term. It diagnosis is not made till after labor it is best to operate early in the puerperium for fear of torsion of ovary or degeneration of growth.

Barrett's results from a study of 114 cases have been substantiated by Patton's results from a study of 310 cases.

VI. Case Report.—To this paper I might add a most interesting and instructive case that occurred but recently in my own service:

Mrs. R. M. H., age twenty-nine years, married seven years. Menstruation always irregular, scanty and dark. Pelvis roomy. December, 1908, child six pounds, now living and healthy. May, 1911, child eight pounds, now living and healthy. July, 1914, child three and one-half pounds, born at seventh month, lived fourteen hours. March, 1915, child

four pounds, born at seventh month, lived sixteen days. One month after birth of second child in 1911 there was a profuse discharge of pus per vaginam following severe pain in region of right ovary; during the year following this attack there were similar discharges at various times. During the third month of a subsequent pregnancy an examination was made and a multiple cyst of the right ovary diagnosed; upon refusal of physician to operate for removal of both pregnancy and pathology the patient decided to endeavor to complete a full term; but the child was lost at seventh month. This patient became pregnant within five weeks of delivery, consequently the same condition prevailed as in the third pregnancy namely; the association of an ovarian cyst with the product of conception and again the patient appealed to the physician for relief and again upon refusal of surgeon to remove both pregnancy and pathology the patient decided to endeavor to complete a full term pregnancy and to give birth to a living child. During five months of the seven months that this fourth pregnancy ran, the patient was placed upon expectant treatment with the result that her general health was improved and the foetus better nourished, but pregnancy terminated at the end of the seventh month with the loss of the life of the child. After such a history this patient is now ready and anxious for an operation having for its object the removal of the pathology which now alone occupies the right pelvis; this pathology at present being diagnosed as a multiple cyst of the right ovary about eight centimetres in width by fifteen cm in length, involving broad ligament and Fallopian tube.

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Discussion

J. F. Herrick, Ottumwa.—I would ask that some one, in discussing this paper, answer a question that has interested me: Does not repeated pregnancy rather preclude fibroid? That is, does it not shut down upon or prevent the development of fibroids unless the process is very active?

C. E. Ruth, Des Moines.—I hesitate to discuss this paper because of lack of experience in this condition of pregnancy. We very frequently find pelvic neoplasm under other conditions, yet any of us are liable to meet it in cases of pregnancy, and when we do we find, as the doctor has said, one of the gravest responsibilities that can ever come to the physician and surgeon. Our course must be decided upon from the conditions present, particularly with reference to the stage of the pregnancy at the time of recognition of the condition.

So far as carcinoma involving the fundus or the cervix is concerned, we have here, of course, two very important differences as to what should probably be a guiding point in our management of the case. We know that in carcinoma involving the fundus of the uterus, we have a condition much less malignant than that involving the cervix, and yet a carcinoma involving the fundus of the uterus will practically never be brought to us until the condition is such that it threatens destruction of the life of both foetus and mother, unless it occur late in the history of the pregnancy. In the very late cases, that is, when we are coming near the time of viability of the foetus, we must, if we recognize that the case is one of carcinoma of the cervix, absolutely eliminate all consideration of the child or we will certainly lose the mother and almost certainly lose the child.

So I feel this: That it is imperative to determine the condition as quickly as possible and then deal with it radically, as has been said, in an operative way. No attempt should be made to outline the operative procedure. Anything short of hysterectomy in these cases is, I think, not worthy of consideration. And I want to go a little farther than that and say that a hysterectomy is not sufficient in the cases in which the cervix is involved. And probably all of you have in mind what I am thinking of viz., the use of the cautery as an additional safeguard. I believe that the cautery must be used more and more as the years go by for the purpose of protecting patients against recurrence of carcinoma. In other words, operate less, disturb the tissues less by handling, and prevent dissemination, because no man can be sure whether he is cutting beyond the point of malignant involvement. We know that many times the infection has gone beyond any apparent manifestation of carcinoma; but by the application of heat, not too intense and applied slowly so that when sufficient time elapses to permit the permeation of the heat to a considerable distance within the surrounding tissues, we will have afforded the best protection against recurrence of malignancy of any type.

I take this occasion to emphatically oppose the use of the cautery in these cases, with the uterus left in position; that is, the destruction of the entire interior of the uterus with the cautery, then leaving the organ in situ. If you are going to use the cautery, do it thoroughly and then take out the uterus.

Dr. Branson.—I have nothing further to say except that right at the present time I have a most interesting case of ovarian tumor that has so far been complicated with two pregnancies, each one terminating at seven months, one conception occurring five weeks after termination of pregnancy and going to seven months. Both times the patient was advised to have an operation as soon as the pregnancy was discovered, but she refused to have operation performed because the physician declined to

remove both the ovary and the pregnancy. She is now, since losing the second child, perfectly in harmony with the idea of having this ovary removed.

SURGICAL COMPLICATIONS OF TYPHOID FEVER*

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While the dividing line between medicine and surgery is frequently sharply marked, the conscientious practitioner of either branch of our science, is often confronted by conditions which most forcibly illustrate their interdependence.

That typhoid pure and uncomplicated should be classified as a disease belonging to the internist and far better treated by him, goes without saying.

That typhoid upon the other hand, atypical and varied, may and does present more surgical complications than any other so-called medical disease, is equally true and more frequently it is only by the combined efforts of the physician and the surgeon, and the exercise of their best judgment and most faithful painstaking effort, that the victim of this dread disorder may be safely guided to and through convalescence.

In corroboration of the above statement I offer the statistics of Holscher of Munich, who in reporting two thousand fatal cases of typhoid gives only 24 per cent. as dying from the disease itself while 76 per cent. died from one or more of its complications. In further corroboration it will later be shown that few of the body tissues are exempt from the ravages of this disease and that a most frequent sequel of such invasion is the necessity for surgical relief. It is not within the province of this paper to take up the etiology or pathology of typhoid in general, but that we may better understand some of its remote effects, brief consideration of some of the extraordinary characteristics of the typhoid bacillus is essential.

In the past when we were denied the privileges of careful and scientific bacteriological investigation, many post typhoid complications went unrecognized and unsuspected as such because of the long interval existing between the apparent recovery of the patient from typhoid and the appearance of the complication or sequel. Modern bacteriology by permitting the absolute identification of the various organisms and their subsequent development under proper conditions, has laid bare the habits of the typhoid bacillus and placed us at last in a condition to trace its effects upon the organism from the appearance of the fever on throughout the subsequent life of the individual.

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One of the most remarkable characteristics of the typhoid bacilli is their ability to live for years in the human body. Many instances have been reported of the discovery of pure cultures of typhoid bacilli in abscesses years after the attack, in fact so many as to no longer render it a matter of unusual comment.

von Durgeon reports a case in which fourteen and one-half years after an attack of typhoid fever a pure culture of the bacillus was secured from an abscess about the gall-bladder. So far as I have been able to ascertain this is the longest interval known to have elapsed between the attack of typhoid fever and the subsequent positive identification of the living bacillus in the same tissues.

Another fact concerning this bacillus is that no tissue of the body escapes invasion by it. So far as human tissues are concerned the typhoid bacillus is ubiquitous and it has been demonstrated in the following fluids and tissues, the blood, the pus of abscesses, in the fluid of tendon sheaths, the urine, bile and pleural effusions. They have also been found in the testicle, the kidney, mesenteric glands, the placenta and fetus, the ovary, the spleen, the gall-bladder, the liver, the peritoneum, lungs, heart, parotid gland, the brain and spinal cord, thrombi, muscles, skin, connective tissues, walls of arteries and veins and bones and joints.

In connection with the general distribution of typhoid bacilli throughout the organism, we may well consider their potency as an infecting agent. For years it was most vigorously contended that this bacillus had no real pyogenic properties and that the various suppurative complications of typhoid were always due to mixed infection. That mixed infection may and frequently does occur with typhoid is true, and if we stop to consider the many avenues for the entrance of such infection in this disease in which may be mentioned bed sores, mouth ulcerations and the intestinal ulcers, we may well be astonished that it does not occur more frequently. However it has many times of late been proven without a doubt by competent observers that the typhoid bacillus has direct pyogenic properties, and abscesses have been found which contained no other micro-organisms. Then, too, suppuration has been experimentally induced in animals by the injection of pure cultures of typhoid germs. Accepting the above statements concerning the habits and proclivities of this germ, that is, its ability to live in the human body for years after the attack, its widespread distribution throughout all the tissues and fluids, and its pyogenic properties, as established facts, we are prepared to take up in

detail the consideration of the surgical complications of typhoid fever.

As these complications are so numerous and varied they may be best considered in anatomical order beginning with the brain.

The cerebral complications of typhoid are many and important. Osler has reported cases of hemiplegia due to thrombosis. Cerebral abscesses have been reported and so far all the known cases in which this condition occurred were fatal. The symptoms which are identical with those of brain abscess due to any other cause, are very difficult of recognition owing to the peculiar mental condition of typhoids generally, and should the diagnosis be made antemortem it is extremely doubtful whether surgical interference would be of any avail. However as all such cases have died it would appear that should localization of the abscess be possible, an attempt to reach and evacuate the same would be justifiable. Many cases of meningitis have been reported of undoubted typhoid origin, and pure cultures of the bacillus of Eberth secured therefrom. In my experience with the army at Chickamauga I saw several cases of typhoid meningitis all of which were fatal. Surgery can offer no relief for these unfortunate victims, and in fact many of these cases are unrecognized during life as the meningeal symptoms may be covered up by those of the typhoid state.

The ocular manifestations of typhoid are also numerous and occur as a complication in a definite percentage of cases and according to de Schweinitz appear in the following order of frequency. Conjunctivitis, suppurative keratitis, retinal hemorrhages, diseases of the uvæ and vitreous, paralysis of the ocular muscles, neuritis, neuro-retinitis, and orbital affections. As the symptomatology or treatment of these conditions as post febrile complications of typhoid does not differ from their symptoms or treatment when occurring independently, further time will not be devoted to this phase of the subject.

Otitis media follows typhoid in about 25 per cent of the cases and is caused by pyogenic infection from the throat and requires no especial description as it resembles otitis media arising from other causes.

Parotitis is a somewhat frequent complication of typhoid and is brought about by infection through abrasions of the lips or mouth or directly through Stenos duct. The symptoms are those peculiar to parotid inflammation in general and the treatment is also similar. The writer has seen four cases of suppurative parotitis, requir-

ing incision and drainage, which followed typhoid fever.

Ulcer of the larynx with perichondritis is a very serious complication, and occurs much less frequently in this country than in Germany, although many cases have been observed in the United States. In the majority of the reported cases it has appeared from the sixth to the tenth week. When occurring earlier in the attack with the patient more or less under the influence of the typhoid toxemia, its initial symptoms which consist of hoarseness, painful articulation and dysphagia may go unrecognized until the symptoms of laryngeal stenosis appear i. e. labored respiration, cyanosis, imperfect expectoration of mucus followed in some cases by suffocation unless promptly relieved by tracheotomy. The perichondritis usually appears first in the arytenoid cartilages advancing from them to the cricoid according to Lunig. Of seventy-five cases of necrosis of these cartilages seventy-one died, and four recovered. Two without, and two after tracheotomy. Wilkes reports a case of general emphysema occurring in a child of twelve following perforation of an ulcer upon the posterior wall of the larynx. The treatment of laryngeal stenosis complicating typhoid is early tracheotomy. To this rule there should be no exception as the condition is most serious and the early operation, while relieving the struggle for breath at the same time provides free laryngeal drainage. Of ninety-eight cases not subjected to tracheotomy, twenty-one recovered, and seventy-seven died, a mortality of 78.6 per cent. Of ninety-nine cases in which tracheotomy was done forty-four recovered and fifty-five died, a mortality of 55.5 per cent. No further argument is necessary in substantiating the advice for early operation.

The Thyroid Gland is not exempt from the ravages of this bacillus, and some fifteen cases of suppuration within the gland in which Eberth's bacillus was found in the pus have been reported. The pre-existence of a goitre in four of these cases may have been a predisposing cause. The treatment is that ordinarily applied to suppurative processes, incision and drainage. The writer has seen one case of typhoid infection of a pre-existing goitre which demanded removal of half the gland.

Ulcer of the esophagus may occur as a complication of typhoid and is often accompanied by troublesome bleeding and may be followed by stricture of the esophagus. Keen reports two cases of stricture of the esophagus following typhoid, and states that so far as he is aware they are the only ones recorded. I can report two

additional cases, one seen by Dr. J. E. Summers, of Omaha, and one seen by myself. My case was as follows:

Miss C., nurse in training in Samaritan Hospital during a severe attack of typhoid had severe attacks of hematemesis. Some months later consulted me because of gradually increasing difficulty in swallowing which had finally come to such a pass that she could not take any solid food. An ordinary esophageal bougie could not be passed beyond an obstruction encountered nine inches from the teeth. A very small bougie revealed the presence of two tight strictures one nine and the other fourteen inches from the incisor teeth. By gradually increasing the size of the bougies full dilatation of the strictures was secured and persistent recurrence of the trouble made it necessary to continue the dilatation at intervals of sixty days for three years. Permanent recovery was finally secured.

Empyema following from four to eight weeks after typhoid in which the bacillus of Eberth has been demonstrated as the exciting cause, has been reported. Its treatment is the usual treatment for empyema. The writer has seen one such case.

Purulent pericarditis is a rare complication of typhoid and should be treated by free drainage. Drigeuet reports a case of abscess of the wall of the heart in which a pure culture of the typhoid bacillus was found at autopsy.

Ulcer of the stomach has been observed complicating typhoid and according to Pepper produces no characteristic symptoms. I can find no reported cases of perforation of a typhoid gastric ulcer, but should such perforation occur its symptoms would be those common to perforation of gastric ulcers in general, and with which you are all familiar. Should such an accident occur immediate laparotomy with suture of the rent in the stomach wall and free drainage would offer the only hope for recovery. I have seen one case of ulcer of the stomach complicating typhoid in the person of the nurse mentioned above as having a post typhoid esophageal stricture and who nearly bled to death several times from profuse gastric hemorrhages and also presented the usual classic symptoms of gastric ulcer.

Abscess of the liver, either single or multiple, is encountered in a small percentage of cases although Holscher says that parenchymatous degeneration of this organ was found in two hundred and three out of two thousand fatal cases.

Liver abscess following typhoid is generally brought about by direct infection through the portal circulation and biliary ducts and is usually primary, but may be a part of general pyemia. The symptoms are those common to hepatic ab-

cess in general and are most frequently masked by the symptoms of the disease and usually overlooked. Should such an abscess be diagnosed during life it should be opened and drained in the usual manner although the operation upon such a patient, weakened by the ravages of the fever and prostrated by the complicating sepsis, could offer but few chances for recovery.

Suppurative pylephlebitis is a rare and fatal complication for which surgery can offer no relief.

The gall-bladder is very frequently attacked by the typhoid bacillus both during and after the fever, cases have been reported in which the germ has been demonstrated in this viscus at periods varying from six months to fourteen and one-half years after the attack. Suppurative cholecystitis with or without gall-stones in which the typhoid bacillus has been found in the pus, or in the walls of the gall-bladder and even in the gall-stones themselves, has been reported. In fact some observers, among them Councilman, claim that the gall-bladder is almost certain in every case of typhoid to contain the bacillus, and surgeons have long recognized this fever as a predisposing cause of gall-bladder disease. I have operated upon several cases in which from the history given by the patient, or the physician, it was apparent that the typhoid bacillus was the source of the infection. One of these patients being a twelve year old girl, the operation being made six weeks following convalescence from typhoid. I have seen one case of gangrene of gall-bladder with perforation four weeks after apparent convalescence from typhoid, in which immediate operation with removal of the gall-bladder and free peritoneal drainage was followed by recovery. The symptoms and treatment of gall-bladder disease complicating or following typhoid fever need no especial description here as they are covered by the general principles of gall-bladder surgery.

The spleen may be attacked by the typhoid bacillus with abscess as the result. Nine such cases have been collected by Keen from the literature, and all were fatal. Could the diagnosis be made, drainage of the abscess should be attempted despite the almost certain chance of an unfavorable result as death is sure to ensue without operation.

Intestinal perforation occurs in 3 per cent. of all cases of typhoid and it is estimated that at least one-third of the mortality of the disease is due to this accident. These facts alone establish the importance of perforation of the bowel as a complication of typhoid and argue most elo-

quently for its prompt recognition and early surgical treatment. The diagnosis of intestinal perforation is at times very difficult and as the results of operation are very good when such operation is made during the first twelve hours after perforation and very bad when it is made later, we may truthfully state that much of the fate of such a patient depends upon the diagnostic acumen and power of observation of his medical attendant. Osler says that it is too frequently the case that the perforation itself goes unrecognized but that the resulting peritonitis is diagnosed. Such perforation is most likely to occur during the third and fourth weeks and is more frequently observed in patients that have been much distended and have had hemorrhages. It may, however, occur in apparently mild cases. The one initial symptom present in all cases of typhoid perforation is sudden severe pain which steadily persists with no remission and is usually located in the lower right abdominal quadrant. Then rapidly follow rigidity and tenderness. In most instances the abdominal rigidity following perforation is extreme and characteristic. Then a steady rise of pulse and temperature appears. The fall in the temperature so frequently mentioned as a pathognomonic symptom of perforation is not a symptom of perforation at all but comes on several hours later and is indicative of advanced peritonitis and extreme sepsis. The leucocyte count is of no value in determining for or against the presence of perforation. The attempt to establish a definite symptomatology for what was termed the pre-perforative stage has been properly abandoned as it had absolutely no value.

We are therefore compelled to make the diagnosis of perforation from the symptoms of sudden, severe and persistent abdominal pain, rigidity, tenderness, in some cases vomiting, and steadily rising pulse and temperature. This symptom complex is significant, and when it is overlooked until the late symptoms of diffuse peritonitis appear, someone has been guilty of negligence. Authorities are agreed that the mortality of typhoid perforation treated without operation is practically 100 per cent. Harte in a series of 362 cases collected by him which were treated surgically, found the mortality to be 74 per cent. This was in 1903, and better methods of operation and drainage employed during the past few years have furnished a still lower mortality.

It is estimated that 20,000 people die annually in the United States from typhoid perforation. Early diagnosis and prompt operation will save 30 per cent. of these. Do you realize the re-

sponsibility? Again I wish to emphasize the fact that the first twelve hours furnish much the most favorable time for operation as the resulting peritonitis has not gotten so well under way. Operations undertaken after the twelve hour interval are attended by a steadily increasing mortality rate in direct ratio to the lapse of time.

The only treatment for intestinal perforation complicating typhoid is surgical. When such perforation has been diagnosed the patient should be placed immediately in the elevated head and chest position and turned sharply on the right side. This posture permits the accumulation of extravasating intestinal contents in the right lower pelvis where absorption is slow, and is of great value in limiting the resulting peritonitis to the region first soiled. As soon as possible the abdomen should be opened through the right rectus under general anaesthesia and the perforation or perforations located and sutured, the peritoneal cavity carefully flushed out with sterile water or saline solution and free drainage provided through a large split rubber tube one inch in diameter carried from the cul-de-sac into the vagina in females and from the recto-vesical pouch out through the lower angle of the wound in males. The patient then is returned to bed, the head of which is elevated at least thirty inches to facilitate drainage through the large tubes at the bottom or the pelvis. General anesthesia is much to be preferred to local, which is frequently recommended for these cases, and the advisability of making the incision through the right rectus is attested by the fact that 95 per cent. of all typhoid perforations occur in the last three feet of the ileum. While searching for the perforation it must not be forgotten however that it may exist in any portion of the digestive tube from the stomach to and including the rectum. The fact that more than one perforation may exist must also be born in mind.

The writer has operated upon five cases of typhoid perforation with three deaths and two recoveries.

Appendicitis occurs as a complication of typhoid and the nicest and most precise surgical judgment and diagnostic skill are demanded to successfully deal with such a case. Most careful and frequent examinations must be made assisted by the blood count to determine for or against the operation. When perforation seems imminent operation should be made at once. Perforation having occurred, immediate operation is imperative. I know of no proposition which so severely tries the conscientious surgeon as that forced upon him by the typhoid patient with appendicitis with the demand that he decide

whether or not to operate. I have seen several such cases and have operated upon six, two in the first week and four in the third week of the disease with recovery in five cases and death in one.

The sexual organs are at times attacked by this very active organism and as a result cases are reported in which one or more of the following complications have been observed. Urethritis, orchitis, epididymitis, ulceration of the bladder with perforation, suppuration of an old ovarian cyst, in which pure cultures of Eberth's bacillus were found eight months after the fever, and pyosalpinx. These complications require no especial description.

Among the mixed infections complicating typhoid, which have been noted, may be mentioned tetanus, anthrax, erysipelas, and malignant edema. These infections take place through the entrance afforded by the intestinal ulcers, the bed sores, ulcers of the mouth, etc. Of these erysipelas is comparatively common while the others have been noted but rarely. Needless to say the occurrence of any of them is a most serious and often fatal complication.

Abscesses complicating typhoid, and in which very often pure cultures of the bacillus may be obtained, are found at times in various regions of the body other than those mentioned specifically above. They may and frequently do occur in the areas of loose cellular tissue, and have been reported in the neck, axilla, chest, abdominal wall, thighs, etc. Intra-abdominal abscesses without perforation of the intestine, and arising from a suppurating mesenteric gland have been reported and ischio-rectal abscesses due to low perforation of the rectum by an ulcer are also on the list. The symptoms and the treatment are those of ordinary abscesses.

Gangrene is a late and fortunately a rare complication of typhoid, but one of great importance as it may occur with or following a very mild attack and displace hope with despair. The time of onset varies, according to Keene, from fourteen days to the seventh week, and in nearly every instance is due to obstruction of the circulation resulting from arterial or venous thrombosis directly brought about by the typhoid bacillus. The gangrene may be either dry or moist, depending upon whether the affected vessel is an artery or vein, and may involve any of the body surface but is found to exist in the following order of frequency, legs, face and trunk, genitals, nose, ears and anus. While statistics show that in typhoid gangrene two cases are found in men, to one in women, analysis of the reported cases shows that this is only true of the cases when the

genitalia are not involved, as most of the instances reported of gangrene of the external genitals occurred in women probably due to the more frequent and general soiling of the parts during the disease. Gangrene of the labia and perineum extending to the thigh and even up the back, and gangrenous ulceration of the vagina with sloughing of the recto-vaginal septum, are recorded. The symptoms of gangrene are characteristic, and need no elaboration here. The treatment is that usually applied to gangrene, as far as the head and trunk are concerned. In the legs it is important to wait until a distinct line of demarcation has formed in cases where the symptoms of constitutional sepsis do not point out the local manifestations of disease. In those instances where rapidly fatal sepsis is threatened, I should advise the rapid circular amputation recommended for traumatic gangrene through all tissues at the same level without dissecting flaps or placing sutures to be followed by a second operation when the constitutional symptoms have subsided.

I have operated upon one case of typhoid gangrene of the leg.

Esther B., age twenty-four, developed gangrene of the left foot and ankle during the fourth week of typhoid. I saw her, with Dr. J. M. Knott, the second day after the appearance of the complication. The gangrene was rapidly extending up the leg and immediate amputation was advised. A subtrochanteric amputation was made and the patient recovered.

Joint Complications of Typhoid.—Rheumatic typhoid arthritis, septic arthritis, typhoid arthritis proper and dislocation have been noted as post typhoid complications of joints. The various forms of arthritis may affect a single joint or two or more joints. Rheumatic arthritis is so rarely observed as to require no further mention. Septic arthritis complicating typhoid presents the usual symptoms of such joint infection and is a very fatal complication. Its early recognition, followed by prompt surgical treatment along established lines, is imperative. The so-called typhoid arthritis proper may involve one or more joints simultaneously, is rarely followed by suppuration and is not a fatal complication. Its symptoms are those of mild arthritis, namely swelling, pain and limitation of motion. Keen has collected eighty-four such cases from the literature, in forty-three of which subsequent dislocation ensued, forty times in the hip, twice in the shoulder and once in the knee. That dislocation of the hip joint may and frequently does occur as a result of typhoid, is a matter of extreme interest, and it has been explained as follows: During convalescence a subacute synovitis

appears with serous distention of the capsule. Should this persist, a slow but gradual elongation of the ligaments follows. From this condition it is but a step to the dislocation of the head of the femur. I have had one such case in the hospital occurring eight weeks after typhoid in a girl of twelve sent by Dr. Evans of Emerson, Nebraska, in which reduction was effected with difficulty and could only be maintained by a plaster Paris spica bandage. I have also observed a case of post-typhoid arthritis of the ilio sacral joint occurring in a young man of twenty-four, fourteen months after typhoid which contrary to the rule was followed by suppuration. Complete recovery resulted after thoroughly opening the joint, removing all diseased tissue and packing with iodoform gauze.

Involvement of the bones is one of the common posttyphoid accidents, and so many cases have been reported during the past few years that they are no longer regarded as unusual. The pyogenic properties of the bacillus of Eberth seem to be called into special activity when attacking bony tissues. Not many cases of disease of the bones have been recorded during the attack, most of them having been observed during convalescence or months later in connection with which we may again mention the ability of the typhoid bacillus to live for months in the tissues. Periostitis, necrosis, caries, osteitis, osteomyelitis, granuloma and exostosis have all been observed, among which periostitis is by far the most frequent. The symptoms of these conditions resemble those of the same affections arising from other causes. The treatment is surgical and should be promptly and vigorously instituted when necessary. The diseased bone should be thoroughly removed subperiostially when possible and drainage provided. In the case of the ribs, which are frequently involved, this is best done by removing the entire portion of the rib diseased, not attempting to curette away the necrotic focus alone. The writer has seen four cases of rib necrosis following typhoid in which recovery was secured, after two or more less radical operations, in all cases by excising the ribs. Any of the bones of the skeleton may be involved, but the superficial bones seem to be the most liable. These bone complications occurring later offer a good prognosis, and recovery will usually follow their proper surgical treatment.

I have endeavored to show that typhoid presents a vast number of most important surgical complications and sequelæ, and in closing I wish to repeat the entire text of the paper that these should be early recognized and promptly treated.

Keen's work on "Surgical Complications of

Typhoid Fever" has been of great assistance in the preparation of this article and is freely quoted.

Discussion

J. N. Warren, Sioux City: The paper is certainly an admirable one. A few points that I wish to make may possibly have been brought out in the latter part of his paper.

First, the failure to recognize complications in typhoid fever, especially when the fever has run a mild course, or has manifested a moderately severe condition up to the very time of the relapse of the fever when we should have commencing convalescence. Very many of the cases that we hear of as having relapse of typhoid fever, do not have a relapse of the fever *per se*, but development of some complication coming in during the course of the disease. In consultation in cases of typhoid fever, it has been my observation in the last few years that careful investigation and interrogation in cases held to be relapsing fever, has proved that instead of this we had some surgical complication coming into the case; that the so-called relapsing fever was not a recurrence of the typhoid infection, but the development of some surgical infection.

Recently I saw a case in a child about fourteen years of age. In the fourth week of the disease the doctor said, "Now, this patient has been free from fever for four days; last night we had sudden rise of temperature to 104." Careful investigation showed that we were having here an acute osteomyelitis commencing in the femur at the lower epiphyseal line. The proper surgical intervention was made, when the fever immediately dropped and there was commencing convalescence. We may also have an acute cholecystitis which may lead us to believe that we have a recurrence of the fever. I have seen two cases of suppurative nephritis, and in both cases it was supposed that there was recurrence of the fever, but proper investigation developed that an acute surgical nephritis existed, and prompt surgical intervention probably saved both lives.

M. L. Turner, Des Moines: I do not feel competent to discuss the paper, but want to report three cases of stricture of the esophagus following typhoid fever, occurring in my early practice.

I believe that Keene, in his "Sequelæ of Typhoid Fever," mentioned about twelve cases which had occurred up to that time. Two of my cases were spasmodic, the other was organic. The spasmodic cases ran a course of about two months; had spasms once every week or sometimes two and even three a week. It was necessary to pass a bougie in order to enable the patient to swallow. In the other case, that of a boy fifteen years old, during convalescence and just after eating supper the patient spit up some blood, following which stricture developed. So far as we could ascertain it was near the opening of the esophagus into the stomach. This continued for some time, the boy being able to swallow only liquid food. Finally he passed into the hands of the osteopaths and from that to Christian Science, went the rounds, and finally came back in about two months.

At this time he was nothing but a shadow. We passed an olive-tipped bougie and continued to pass it for three months, increasing the size. The first bougies passed were very small and caused great discomfort. I confess to you that I would not do it today. I would call on Dr. Knott to look after this case. After passing the bougie twice a week for four or five months, the patient recovered, and is now practicing dentistry.

J. L. Augustine, Ladora: While I agree with everything the essayist has said, I would like to emphasize the necessity of recognizing a perforation much earlier than is commonly appreciated. As the essayist has said, a perforation which has not been recognized up to twelve hours, leads the patient to a most desperate condition. In order to achieve success by operative procedure, it ought to be done early. If you wait one or two days before you have made your diagnosis, it is useless to invoke surgery.

But the great difficulty lies in immediately recognizing the perforation. If the typhoid patient was calm and conscious and in fair physical condition, and he suddenly developed pain in his abdomen with an increase in pulse rate and temperature and there was rigidity of the abdominal muscles, one certainly ought to make an early diagnosis. But so many of these patients are in a far different condition from that. Often they are somewhat comatose, or at least their sensibilities are badly blunted and frequently they have considerable abdominal distention from other causes. Thus conditions resulting from perforation are not manifest as suddenly and decisively as are those which follow perforation in other cases. And when you see such a patient you really wonder what has happened, and by the time you have wondered a day or two it is too late to accomplish anything. After general peritonitis has occurred, the chance of saving the patient is small. I have seen a number of these cases, and confess that I have not operated on any of them because of the fact that I have not seen them at a time when I felt that operation would do any good. If anything is to be accomplished at all, we must have an early operation.

Many times the question comes up as to whether perforation exists, or whether the condition is simply that of abdominal distention with rapid pulse and perhaps an increase of temperature from other causes. I remember some instances in which I have seen those symptoms occurring when there was no perforation. Generally the distention, at least of the upper part of the abdomen, is soft, and when there is soft distention in the upper part of the abdomen we can nearly always dismiss the idea of perforation. But when you find the rigid form of distention, you can feel pretty certain as to what has happened.

I repeat that if these patients are to be helped, operation must be performed within a few hours.

William E. Sanders, Des Moines: I was surprised that the essayist should include tetanus and erysipelas as surgical complications of typhoid. It would seem that the medical man is to be completely disregarded in the management of typhoid.

Dr. Knott stated that the duration of the life of the typhoid bacillus in the body following typhoid infection, had been found to be as long as, and I believe not longer than nineteen years. Four years ago about the first of May, Professor Barker, the distinguished clinician at the Johns Hopkins Hospital, underwent an operation for gall-stones, and from the nucleus of these gall-stones we were able to isolate and cultivate pure cultures of the typhoid bacillus. Dr. Barker had his infection in 1889 when a student in Toronto.

Regarding hemorrhage of the stomach in typhoid fever, it has been my fortune or misfortune to have seen one case in which typhoid fever began with an immediate copious hemorrhage of the stomach. I have also seen one case from the service of Professor Fred Muller of Munich in which there was suppurative infection of the thyroid gland. This case was not operated. There were present all the symptoms of hyperthyroidism, and the patient died. He went to post-mortem, and the bacillus was isolated. Suppurations of the thyroid are more apt to manifest themselves as hyperthyroidism than as isolated symptoms of local collections of pus.

C. S. James, Centerville: I feel that there is but very little that one can add to what the essayist has presented to us with reference to the surgical complications of typhoid fever. Neither do I feel that the surgeon at any time shows a spirit of wishing to "hog" the whole territory, because in the management of the complications of typhoid fever there is opportunity for the internist to so care for the case that there is no place for the surgeon. And when the internist so manages these cases and convinces the surgeon that they can be so managed, I assure you the surgeon will step down and out, because typhoid fever, particularly in its more severe complications, never furnishes a case that the surgeon approaches with any degree of confidence.

I personally believe that typhoid perforation is very much more frequent than is generally supposed. In a restricted district I have been able in the past two years to report eleven cases of typhoid perforation operated with ten recoveries. I think that is better than the internist could show, so I am going to continue to recognize and operate these typhoid perforations in collaboration with the internist every time I feel certain that I have a typhoid perforation.

A word of warning. If you wait until absolutely certain in every case of typhoid perforation, that you have that condition positively to meet, you are going to bury entirely too many cases. It is better to unnecessarily open one case out of twenty-five and save the other twenty-four, than to bury all twenty-five.

The only one symptom that is universally dependable is sudden pain. I do not know of any other one symptom that I think can be relied upon in the determination of a probable typhoid perforation, and if I had typhoid fever and my attending physician could come to the conclusion that I had a probable typhoid perforation, I know I would want my abdo-

men opened, for even if I were a bad operative risk I think I would have a better chance with that man knowing whether or not I had a perforation, particularly if the chances were nine out of ten that the perforation really did exist.

W. E. Scott, Adel: In a recent case, a female, convalescent from a six weeks' siege of typhoid fever, after being up for one week developed severe epigastric pain followed by jaundice with bile in the urine, the condition being relieved by putting her to bed for a week and giving symptomatic treatment. On getting up she again developed epigastric pain of a paroxysmal character, such severe pain that there was shock accompanying it indicating possibly some abdominal trouble, again with jaundice. The patient was very much emaciated as a result of typhoid. At this time I did not suspect that the patient had the trouble which I found afterwards existed, viz.: Floating kidney. Gall-stones was the diagnosis of a consultant, who advised operation, an unwise conclusion from the evidence, as the future history showed. I rather regarded the case as gastric ulcer, and put her to bed for four weeks under a restricted diet and with appropriate treatment. During this time she had no attacks of pain and I believed she was getting well. I then let her up, and at the end of a week she again developed paroxysmal abdominal pain with jaundice and bile in the urine and was in a very serious condition. She consulted another physician, who said there was some obstruction in the liver, advising operation. She came home, had another very severe attack of pain and was very sick with jaundice and also pneumonia, both of which cleared up after two or three weeks in bed with appropriate treatment, during which time she had no pain. At that time she pointed out to me a lump in her side which proved to be the right kidney and would wander almost anywhere in the abdomen. I never had seen a case of floating kidney combined with severe pain of a paroxysmal nature. I looked up the literature and found that it was a floating kidney accompanied by Deitl's crisis. As long as she remained in bed she had no jaundice and no pain. This condition followed by jaundice is of rather unusual occurrence, but undoubtedly this was a case of the kind. The patient is now well, and is wearing an abdominal support of a peculiar make, partly of my own design, but designed after the plan suggested by Mr. Lane as an abdominal support for the male to increase intra-abdominal pressure.

The point I wish to make is simply this: All cases of jaundice and epigastric pain are not due to gall-stones and do not require operation. In this case I, at least temporarily, have beaten the surgeon and perhaps the undertaker out of a job. A snapshot diagnosis of gall-stones and reference of the case to the surgeon for operation, I believe to be one of the most common mistakes of the general practitioner.

Dr. Knott: As to Dr. Sanders concerning tetanus, I simply can tell him that my authority for the

statement that tetanus does complicate typhoid fever, is W. W. Keen.

As to perforation. The statistics of perforation may be increasing, as has been stated by the gentlemen who have discussed the paper. There is not any question but that perforation, untreated surgically, will be followed by practically a mortality of 100 per cent. In these days, with modern methods of drainage, with quickly available operative facilities, and with men capable of knowing when to do an operation and in as short a time as possible, a larger percentage of recoveries must follow perforation. During the last two or three years, with the case placed in the hands of skilled operators within twelve hours after perforation has occurred, recovery is shown in 40 per cent. of cases.

Dr. Augustine stated that he had seen several cases of perforation, but had not operated upon them because, unfortunately, he had seen them too late. No patient should be operated on if we are satisfied he will die within two or three hours after operation. But if the patient is extremely ill, if he has a rapid pulse and distended abdomen and we are afraid that possibly recovery in his case is a little out of the question, nevertheless, being certain he will die without operation, if there seems to be a remote chance—one in ten, twenty or fifty,—then I believe the patient should have it, and the operation not deferred because we do not want to add something more to our mortality rate.

DISEASES OF THE EYE AND EAR AS INFLUENCED BY GENERAL CONDITIONS OR DISEASES OF OTHER ORGANS*

F. F. AGNEW, M. D., Independence

The routine of a general medical practice reveals to the careful observer many complications of varying degrees of severity. No organ in the body is immune from the invasion of pathology, whether produced by infection, traumatism, the effect of alcoholism or toxic poisoning, or from a faulty alimentary tract. Close observation, keen judgment, the assistance of the laboratory and the X-ray are indispensable equipment, yet do not always disclose the exact conditions present.

Diseases and general conditions which cause complications of interest to this section, namely those of the eye or ear or both, or which interfere with the recovery of such complications, are many, but I will confine myself to those most commonly seen in general practice.

Diseases of the eye familiar to us are conjunctivitis, iritis, keratitis, and iridocyclitis; less frequently episcleritis, papillitis, retinitis, choroiditis and ocular hemorrhage; of the ear, otitis

media (both acute and chronic with their mastoid complications), catarrhal deafness, otosclerosis, and diseases of the labyrinth.

The general conditions with which we most often see these complications are syphilis, tuberculosis, nephritis, acute infections, toxæmia, and rheumatism. I think that eye diseases are more often seen as a complication of syphilis than of any other disease, even in rural communities. The many complications of this condition are in reality but symptoms of the disease, requiring the most energetic constitutional treatment in conjunction with the local before any progress can be expected toward recovery. Consequently, the fullest obtainable knowledge of syphilis in all its peculiar phases is essential, no matter what branch of the art is chosen in practice, nor in what part of the country we are located, for syphilis is everywhere and we must recognize it wherever it may perchance exist. Scarcely a day passes that this plague of the human race does not show up in some form or other, either in the history of a case or the examination to follow. Authors generally give it credit for the largest number of cases of iritis. Fuchs says by far the greatest number are caused by it. In the presence of a syphilitic infection, the cause of a complicating iritis is evident. In a suspected case the history may be lacking or denied and though the characteristic appearance is not present, other lesions may be evident to verify the suspicion.

Choroiditis may complicate iritis and is fairly common in congenital and acquired syphilis, though not frequently recognized in general practice. Extensive injury may occur before these cases are brought to the observation of the specialist whom they seek after numerous efforts to be fitted with glasses by the optician.

Diseases of the lachrymal gland, keratitis, optic neuritis, paralysis of accommodation or the ocular muscles, and retinitis, are conditions that the practitioner should bear in mind as suggestive of syphilis. The presence of any one or more of these should impress him with the possibilities even in the absence of history, and every means should be used to determine the presence or absence of this disease.

Syphilis of the middle ear is rare, yet may occur by extension. Oto-sclerosis, particularly in young women, is said by authorities to be presumptive evidence of hereditary syphilis.

A most impressive lecture on syphilitic neuritis given by Prof. Louis Julian of the University of Paris, is recorded in the Fifteenth Series of International Clinics, Volume IV. In this he points out the vagaries of syphilis, the lack of

*Read before the Sixty-fourth Annual Session, May 12-13-14, Waterloo.

response to what we consider the most scientific treatment, the necessity for persistence in treatment, the value of intensive treatment, and the superior benefit of calomel over other drugs when administered hypodermically. The examination of a suspected case of syphilis today is not complete without the Wassermann and Leut-
tein tests. Recent personal inquiries from twenty-five of our representative clinicians and men of large practice were mostly answered in terms quite definite.

Doctor L. W. Dean referred his answer to Doctor C. W. McClure who says:

A Wassermann reaction is made at least once on every patient entering the medical service. In over a thousand cases, on a certain number of which more than one reaction was made, we have had but two positive results in cases considered as non-syphilitic. In these cases the degree of positiveness was but two plus. One was a case of carcinomatosis and one a typhoid with a temperature of 104 F., and in both conditions such reactions may be obtained. In all other cases in which a positive reaction occurred, there was definite evidence of syphilis.

Dr. F. Kreissel of Chicago, said:

Assuming that the Wassermann test will be carried out by an absolutely reliable laboratory man, it will always be found positive when there is a specific process present. With this remark I wish to say that the Wassermann test of the blood might be negative, but you will find the Wassermann test of the spinal fluid positive if symptoms pointing to the possibility of syphilis are present. I also wish to say that in cases in which I had good reasons to suspect syphilis in spite of a negative Wassermann test, I have been able to get a positive Wassermann after an intravenous injection with 0.45 of neosalvarsan, the test made about three weeks after the administration of the salvarsan. There is only one exception to my above statements and that is "If a patient has partaken liberally of mutton or lamb, the best laboratory man might not be able to get a positive Wassermann, unless the patient refrains from this diet for at least one week." I cannot urge you strongly enough to inquire of every patient as to this fact before you are going to make a Wassermann test.

Doctor J. Glomset, replying for Doctor Walter Bierring, wrote:

Our present knowledge of the Wassermann reaction may be summarized as follows: First—A strongly positive Wassermann in the hands of a reliable man means syphilis. Second—A so-called weak positive Wassermann with history or symptoms of syphilis, also means syphilis. Third—A single negative Wassermann means nothing. A Wassermann becomes positive after an initial lesion has been present for from one to two weeks, and from that time on a positive Wassermann may be obtained in over 90 per cent. of cases in the primary

stage. Secondary syphilis gives practically 100 per cent. positive Wassermann. Tertiary syphilis gives from 80 per cent. to 90 per cent. positive, depending on the location of the lesion and the activity of the process.

Doctor Arthur S. Hamilton of Minneapolis, writes as follows:

In my first experience with Wassermann's done in the blood, so many times these came back negative in cases that clinically seemed positive instances of locomotor ataxia, that I grew to distrust the reaction very much and finally resorted altogether to spinal punctures with a Wassermann in the spinal fluid as well as a cell count, a globulin response, and a Lange gold solution test. By employing all these tests in the spinal fluid, I have found the results extremely gratifying.

Doctor Samuel S. Lindsay of the Iowa State Hospital for Insane at Independence, says:

Most of us are inclined to believe that proper technic and repeated tests will show the presence of this reaction in practically 100 per cent. of syphilitics.

Dr. Otto Freer, the well known clinician, replied:

I have found the positive Wassermann 100 per cent. reliable. The negative Wassermann I have found unreliable in about 10 per cent. of cases.

From the men in smaller places where the blood has to be sent to the laboratory and the technic of the work, both in taking the blood and at the laboratory, might be questioned, comes doubtful reports of the value of the Wassermann test, some of them placing no reliance whatever upon it. The persistent users, however, who make it a part of every examination and whose laboratory work is done by a specialist in that line, find it of undoubted value in diagnosis.

Like tuberculosis, syphilis of the middle ear is rapidly destructive, and since the destructive process occurs only in the active stage, the diagnosis should not be difficult, and the treatment is evident. Constitutional treatment pushed rapidly with ventilation of the nasopharynx and cleansing of the ear, should meet with good results in any case.

In suspected tuberculosis of the middle ear, there is usually involvement of the lung and perhaps of the trachea, epiglottis or tonsils. It is quite possible for bacilli to gain entrance in the eustachian tube during spells of coughing, from the careless use of the eustachian catheter, or from a nasal douche, as occurred recently in a case of my own. Multiple perforations and foul discharge in the presence of a rapidly destructive process, should indicate the character of the trouble. It is a condition entirely dependent upon the primary lesion brought on and kept active by it, and the treatment chosen must be in accord with

the findings elsewhere. Surgery may be indicated to limit the process, but no hard and fast rules can be laid down in such conditions, they must be dealt with according to the extent of the primary infection and the general physical resistance of the patient.

During epidemics of acute infections such as influenza, scarlet fever, measles, typhoid, and recently, streptococcus sore throats, many cases of otitis media are seen as a complication, and it is considered by more than a few to be a necessary but harmless condition, consequently little attention is paid to it. The results of this wanton neglect are seen later, even in middle life, in the form of chronic suppurating ears with much of the structure destroyed and the hearing gone. Such neglect, it can be called nothing less, is deplorable, for the majority could have been cured with a small amount of the right kind of care. Such cases seem fewer since the cause of the obstruction to drainage through the eustachian tube is better understood, but they are far too many even now.

Phillips states that an estimate made by A. Bordes places 65 per cent. of suppurating middle ear cases in children in the tubercular column, and that of fifty cases subjected to the Calmette test by Fowler, "twenty-nine were chronic cases with twenty-seven positive reactions. Fifteen were acute with four positive reactions, and six had acute mastoiditis with two positive reactions." While Phillips does not place complete reliance upon the test used, he does not deny that such result might be correct. At any rate, even an opinion from an observer of such experience to this effect should be worthy of our consideration, and to say the least, our careful interest is not wasted on an organ whose function is of such importance as is that of the ear. A suppurating ear, to recover in the shortest time possible and with the least permanent injury to its structure, must have more intelligent treatment than the careless washing out of the external canal so commonly practiced. Free ventilation of the naso-pharynx, and free drainage, are important in the treatment of any suppurating middle ear, and until this is accomplished, little but harm can be expected.

In childhood, where otitis is most frequently observed, it has been my experience a great many times that when every ordinary means had been used without result, a complete cessation of the discharge and closure of the perforations in the drum followed immediately the removal of adenoids. The establishment of normal conditions for relief of this trouble, whether by surgery or other means, should be left to the hands of those well trained in this work.

Of more than passing interest to the writer, in connection with ear cases, is the recent observation of two cases of puerperal septicæmia.

Mrs. B., age twenty-three, operated for appendicitis at the second month of pregnancy, carried her baby to full term and was delivered instrumentally after a severe labor. Had suppurating middle ear and suppurating dacryo-cystitis since childhood. One hour after delivery suffered severe general body pain lasting thirty-six hours, not relieved by morphine, ending in profuse post-partum hemorrhage which was followed by a chill and rise in temperature. The probable nature of the trouble being realized, cultures were taken from the ear, cervix and blood stream. Anti-streptococcus serum was given constantly until 210 c.c. had been used without result. On the eighteenth and nineteenth days of her illness, symptoms of meningitis and pressure were well defined. All treatment, including drainage of cul-de-sac failed, and she succumbed on the nineteenth day. The report on the cultures was: from blood, streptococcus; from ear, streptococcus mixed with germs not identified; from cervix, streptococcus and other germs.

Mrs. M., gave birth to "still born" twins at the eighth month, a few days after an attack of so-called influenza which was complicated with a suppurating otitis media and sore throat. General sepsis showed up about twenty-four hours after birth of the babies, death occurring on the eighth day. Report of cultures in this case were: ear, staphylococcus pyogenus aureus and streptococcus brevis; blood stream, streptococcus brevis.

These cases seem highly significant of the fact that infection was present in the blood stream before delivery, and that its most likely source of entrance was through a suppurating ear.

The opinion seems to prevail that syphilis and tuberculosis cause the greater number of complications. The writer would venture the opinion however, that if accurate statistics were obtainable, influenza would be found equally destructive even to the organs in question, though indirectly to the eye. It is a very frequent complicating infection and once the germ locates itself in one of the accessory sinuses, statistics tend to show that it is rarely, if ever eliminated. In my own experience, I have drained the same middle ear three successive winters for suppurating otitis originating with an attack of influenza, the subsequent attacks apparently being caused by simple coryza. While this ear has a normal appearance and the hearing is good, I doubt if it has ever been free from the original infection. The accessory sinuses of the nose are subject to prolonged infection by the influenza bacillus as shown by many careful observers who have the opportunity to follow their cases and prove their assertions by laboratory findings.

The thin bony walls of these sinuses, for ex-

ample the sphenoidal and ethmoidal, offer but little protection to the meninges and optic nerve, the sheath of which is continuous with the periosteum of the orbit. The relation of the optic nerve to the sphenoidal sinuses and the posterior ethmoidal cells is in some cases very intimate. Should necrosis of this thin wall of bone occur, there is nothing to prevent infection traveling to the optic nerve or even remote areas by way of the lymphatics. One of the most poorly nourished, anemic, toxic individuals I have ever examined was a man who suffered from chronic suppuration of the sphenoids with large middle turbinates, nor have I ever witnessed a more rapid return to health than in this same case, after the removal of these turbinates and the drainage of the sphenoidal sinuses.

The abdominal organs are subject to the ravages of influenza, and examination of the eye or ear or both, may find evidence of a kidney or pancreatic lesion before the diagnosis has been made from the examination of the urine.

Theobald states that "With acute infections, choked disc, usually bilateral, may occur with all its disastrous effects on vision, though other lesions of the eye from this cause are not common."

During epidemics of typhoid fever, catarrhal otitis is a complication which develops into a suppurating condition in about 2 per cent. of cases. Mastoid involvement, which is not common, is fatal in about 50 per cent. of the cases where it occurs.

The complications of diabetes may involve either the eye or ear. The general practitioner is familiar with cataract developments in this condition, and watches its progress as he watches the amount of sugar in the urine, knowing that the greater the amount of sugar, the more rapid will be the development of the cataract and vice versa.

Hemorrhage, retinitis, amaurosis and paralysis of the ocular muscles are conditions which hasten the patient to the specialist. In many cases, early observation by the specialist would greatly assist in delaying the fatal day of blindness. As in syphilis, local lesions are due to the general condition, and treatment must be both general and local, as the responsible toxic poison depends upon the incomplete combustion of fats in the intestines.

The subject of arterial hypertension and its causes, has become one of the greatest importance during the last few years. Its relation to diagnosis and prognosis is probably given greater consideration in medicine today than any other one subject. We are told by those qualified to

judge, that it is the result of toxins in the circulating blood, acting directly on the walls of the arteries and nerve endings which terminate in them. These substances may be the products of infectious diseases, disturbed metabolism of alcoholism, syphilis, or the influence of long continued mental exertion. Patients of this class frequently complain of failing vision, vertigo and dyspnea. We find the arterial tension ranging frequently at 200, and now and then, as high as 250. The urine of these patients, of whom I have examined a great number, may show albumin and invariably hyaline and finely granular casts in considerable numbers. Indican in excessive amounts is an almost constant finding.

Vertigo is frequently complained of, accompanied by defective hearing. Dieulafoy states that "Noises of a tinkling or buzzing nature, accompanied or followed by defective hearing, are in Bright's disease more frequent than the ocular symptoms." The findings of Bonnier show that the ill defined syndrome of Meniere's vertigo is often only a symptom of Bright's disease. The ocular findings of this trouble you are all familiar with, and it would seem that the examination of any case showing high arterial tension or complaining of any of the above symptoms, is incomplete until the ophthalmoscopic examination has been made, and as it is not always possible to send these patients to an oculist, the general practitioner should familiarize himself with the instrument. With the properly interpreted findings added to those of the urinalysis and sphygmomanometer, he will be able to make a better analysis of conditions and more intelligently treat such a case.

In connection with this, I wish to report the case of two brothers, coming to me in the summer of 1914, with similar complaints of vertigo and pain in the head. They were fifty-five and fifty-nine years, respectively, men of good habits, one a stone cutter, the other a farmer. The blood pressure of one was 225, of the other 190 mg. hg., each complaining of symptoms common to high tension. On the 28th day of June the older of the two complained of a mist or shadow over the right eye; there was history of exertion two weeks previous, in lifting on an auto. The ophthalmoscope revealed a sub-retinal hemorrhage covering the entire macular region. On July 14th, the brother appeared with a similar complaint of the right eye; no unusual exertion could be recalled. The ophthalmoscope showed a hemorrhage similar to that of his brother's but on the nasal side. In each case the clot was absorbed and good vision resulted. In such cases, Dieulafoy states that hemorrhages may also oc-

cur in the mucosa of the tympanum as does also edema of the auditory nerve.

In recent years, considerable attention is being paid to the relation of pyorrhea alveolaris to systemic conditions, diseases of the accessory sinuses and the nearby organs.

On this subject, Joseph C. Beck of Chicago, wrote an article which appeared in the Dental Review of December 14th, in which he cites a case of recurring iritis. "The patient had had these attacks once or twice a year for fifteen years, had been examined by the best internists and ophthalmologists in the country, had an iridotomy performed, tonsils removed, and the antrum explored without relief, but as soon as the teeth were put in good condition, the trouble ceased." He also states that many cases of idiopathic choroiditis are undoubtedly of dental origin, and orbital cellulitis and retrobulbar infection has been shown to be developed from infected antra, which in turn is caused by a diseased tooth.

In closing I have but this to say, that the time has arrived when a skilfully conducted laboratory is a necessity in every county, where patients may be sent for the required work; and further that the practical use of the means for diagnosis already at our disposal would lead to more satisfactory clinical results.

Discussion

Dr. R. M. Lapsley, Keokuk, Iowa.—A paper of this kind is always timely and merits a generous discussion. The aim should be in every case to find the underlying cause if possible and not finding it in the eye it should be sought for elsewhere by every means in our power including the very best laboratory facilities which it is possible to call upon. The paper of Dr. de Schweinitz along this very line brought out most forcibly and emphasized the many general examinations and tests required in order to determine the etiological factors in for instance such diseases of the eye as the uveal tract. Unless we are on our guard, we may as specialists overlook the relations of certain general conditions to our eye trouble in the same way that the general physician may overlook the eye or throat side of the question. For this reason we need constant reminders to get the proper prospective and be on the safe side.

Dr. G. F. Harkness, Davenport, Iowa.—While thoroughly enjoying the essayist's most interesting and excellent paper, I feel that we really get the most out of these meetings by picking out those points with which we are not in accord. I wish to take exception to the statement that oto-sclerosis is to be taken as probable evidence of congenital syphilis. I do not believe such to be the case or that the general modern conception of the disease coincides with this statement. I should also like the essayist in closing to tell us something more regarding his

statement that a mutton and lamb diet really interferes materially with a positive Wassermann. Laboratory men have laid stress on diet in a general way but that the above has any such specific action is something new to me.

Dr. F. E. Shore, Des Moines, Iowa.—We are of course dependent on our positive Wassermann test on the laboratory man entirely, and for that reason the caliber of the man doing the laboratory work must be without challenge. While we are apt to accept a single positive report as conclusive evidence of syphilis, we must not think on the other hand, that a single negative report will not absolutely rule it out, but if necessary take another. We well know that occasionally we get a negative report from the laboratory in cases which exhibit definite clinical signs of syphilis so that the laboratory and clinician may not always be in accord. Note—Three cases of syphilis briefly mentioned, i.e., case of tumor of larynx, case of ulcer of cornea specific mastoiditis, case of pyorrhea and case of rheumatism also cited. The first three had to do with the Wassermann test, neosalvarsan therapy and the last two with relation of the gums and tonsils as sources of systemic infection.

Dr. G. E. de Schweinitz, Philadelphia, Pa.—Dr. Agnew's timely and excellent paper opens a wide field for discussion. In earlier days a search for the etiological factors in many ocular diseases was attended with considerable difficulty, and a demonstration of the relations which exist between systemic infections and eye disorders was often neglected because of lack of methods. Now the situation is different, and we are provided with many laboratory tests, with special methods of examination, and with therapeutic procedures which have over and over again established this important correlation of general disease and ocular inflammations, and more than ever before general physicians, as well as oculists, have come to understand that the eye disorder must not be studied as an entity, but as part of the symptomatology and interpretation either of a general infection, or local areas of sepsis. I think we are all quite satisfied that a negative Wassermann test is not of much value, and are quite convinced of the necessity of the repetition of this test, controlled by various methods of procedure. I have heard of the relationship of certain diets to the Wassermann reaction, but have no experience of my own to add to the statements of the essayist. It would seem to me that those who are expert in this matter should endeavor, as I believe they are endeavoring, to improve the methods and give to the reaction an even greater value than it now has. I would like to emphasize the great importance of a search for what I may call hidden lesions in their relation to various ocular infections, particularly as they exist in the uveal tract, for example, small abscesses, often unsuspected and undetected except by X-ray examination, at the roots of carious teeth, deeply hidden infected tonsillar crypts, areas of sepsis and bacteria-producing patches in mucous membranes, the intes-

tines, the urethra, etc. We do not do our duty to patients with these ocular diseases unless what the late Dr. Harrison Allen used to call the entire cephalic mucous membrane, is thoroughly explored, as well as the intestinal tract, the pelvic areas, etc. The therapeutics of uveal tract diseases have made a distinct advance since the importance of such investigations has been made conspicuous.

Dr. E. R. Lewis, Dubuque, Iowa.—I must call into question the essayist's statement as to oto-sclerosis in the young as being a syphilitic taint. I agree with Dr. Harkness that this is not in accord with our pathology of cases of true oto-sclerosis. We must differentiate sharply the cases of true oto-sclerosis and pseudo oto-sclerosis which differentiation at times taxes all our resources, and indeed it is impossible in every case to tell exactly. True oto-sclerosis is a perverted cellular metamorphosis and not an inflammation. Pseudo oto-sclerosis on the other hand is an inflammation of exogenous origin and is often due to syphilis, and it is here especially that our Wassermann test will help us out.

Dr. F. F. Agnew.—In closing I wish to state that my paper was written from the standpoint of one who does special work along with a general practice, which in some instances, permits of close observation of the influence that a general condition may have upon one of the special organs. The general discussion, and particularly Doctor de Schweinitz's paper of last evening, is valuable stimulus along a line of work now coming into prominence which has opened up to light, avenues of infection which have particular influence on the special organs. I refer to pyorrhœa alveolaris. As yet we have few dentists, who have so equipped themselves as to be able to handle successfully, this work, to locate to a certainty the hidden foci of infection about the roots of teeth. In Independence we are fortunate in having a dentist who has taken this work up as a specialty and who devotes all his time to the work. I refer to Doctor E. A. Shreader whose success along this line is becoming well known and whose opinion is valuable, made so by his untiring effort to definitely diagnose and treat his cases. The co-operation of a dental specialist with the physician is bound to bring results of value to both.

DEGENERATIVE CHANGES IN THE UTERUS

A. P. DONOHUE, M. S., M. D., Davenport

Medical literature is replete with articles on the proliferative changes in the uterus. A perusal of the literature for the last few years, however, reveals very little on the degenerative changes in the uterus.

The degenerations of course, are not so common in an organ so profusely supplied with blood; an organ to grow and become many times larger is its physiological duty. When we, therefore, find a process of degeneration it impresses us as a case somewhat out of the ordinary. The case of which I write is a hydropic degeneration of

the uterus at the exact site of the abortive placenta just seven months before.

The patient, a robust woman of thirty-two years, has two children; one twelve the other five years old. She had one miscarriage nine years ago. She has had no serious sickness in her life. Patient's present trouble began October 14, 1914. The cause of this third month abortion is unknown. The uterus was curetted with finger at the time, and the placenta was found attached to the fundus close to the right oviduct. It was easily removed.

Patient was in bed fourteen days and my records show a temperature no higher than 101 degrees at that time; house work was resumed in two weeks.

Three months afterwards she came to my office suffering in a manner that would indicate neurasthenia. The neurologist demands a focal cause in neurastheniacal symptoms no less exact than the focus of infection of the internist. Further examination revealed an old cervical tear, tender and inflamed, and a lacerated perineum. Reasoning that the repair of these would find the seat of the trouble, patient was finally sent to the hospital for the operations.

Blood analysis:

Red Cells, 4, 660, 000.

White Cells, 10, 100.

Hemoglobin, 74 per cent.

Urine normal.

Wassermann negative.

On curetting the uterus previous to the cervical repair, a ragged edge in the fundus was felt. Inserting a uterine probe, the ragged edge was discovered to be a hole in the uterine wall. The probe fell through the rupture to the sacrum. The cervix was repaired and the abdomen opened to repair rupture or perform hysterectomy. The uterus looked glazy and was boggy, thick and friable. The place of the rupture was ragged and blue, the peritoneum, then, probably having just given away before the uterine probe. I performed a hysterectomy at the peritoneal vesico-uterine junction. Drainage was established for forty-eight hours, after which the wound healed completely.

The abortion occurring without any known cause; the curettment with the finger, establishing the exact site of the placental attachment; the slow recovery and neurastheniacal symptoms which followed; the accidental finding of the rupture; the degenerative changes occurring now at the site of the placental attachment seven months before; the hysterectomy to save the patient, all go to make a case interesting and instructive.

The report of the pathologist was hydropic degeneration of the uterus.

The Journal of the Iowa State Medical Society

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The forceful paper read by Dr. Luckey at the Waterloo meeting of the State Society, was in the nature of an inquiry why so many mistakes of diagnosis are made by the profession, particularly in the early diagnosis of tuberculosis. Exceptions were taken to Dr. Luckey's criticisms as being unjust. We have read Dr. Luckey's paper with a good deal of admiration for the courageous manner the shortcomings of the profession are set forth. We are forced to admit that there are many medical practitioners who appear to look upon the practice as a trade and fit themselves accordingly, the principle equipment being a great variety of drugs and combinations which are prescribed and sold at a good profit. If books and journals are found they principally relate to drugs and medicines that are good for certain symptoms or diseases. These gentlemen have little interest in medical societies and but little interest in accurate diagnosis. Dr. Luckey goes particularly into the early diagnosis of tuberculosis without pointing out the difficulties of diagnosis in early cases, which makes the criticisms in the paper seem harsh. The author's training and high standing entitles what he has to say to serious consideration, and in view of the fact that the early diagnosis of pulmonary tuberculosis is the principal subject of criticism, we would invite his attention to an address before the Laennec Society on the decennial of the Phipps Dispensary for Tuberculosis by Louis Hamman, M. D., published in the Johns Hopkins Bulletin for August, 1915. The subject of the address is "The Early Diagnosis of Pulmonary

Tuberculosis." What Dr. Hamman says after ten years experience in the Phipps Dispensary seems so different from the information we have received from other sources that we cannot refrain from abstracting the part of his paper which refers to early cases of pulmonary tuberculosis. He says: "A large number of cases of pulmonary tuberculosis have no early stage, but jump at once from health to a moderately advanced or advanced stage of the disease." Dr. Hamman holds that the premise "that every case of pulmonary tuberculosis has an early stage is tinged with gross error." Tuberculosis is not an infection that always begins as a minute lesion in the lung, from which lesion the disease gradually and slowly spreads to neighboring areas, giving at first but indefinite signs of its presence, and only later causing obvious symptoms.

The doctor states: that they see but few cases of incipient tuberculosis in the dispensary although they have a large and varied material to draw from. "The reason for this, I believe, resides more in the nature of the disease than in the lack of diagnostic ability." "That the necessary skill (for early diagnosis) will never be the common possession of the profession as a whole."

Dr. Hamman reaches the following conclusions in relation to the question of early diagnosis in pulmonary tuberculosis as an effective weapon in the campaign against the disease.

"Having taken exception to all the premises, it is needless to add that we no longer have faith in the conclusion that the solution of the tuberculosis problem resides to a large measure in the diagnostic skill of the medical profession. Were it possible—though we think it is not—to train the profession to a high standard of diagnostic skill, still the nature of the infection and the difficulties encountered in early diagnosis, even by the expert, would be an insuperable barrier to such skill becoming an effective weapon in the campaign against tuberculosis."

Dr. Janeway in the discussion of Dr. Hamman's paper expressed himself as follows: "It seems to me that the discussion of the early diagnosis of tuberculosis is more or less academic, with our knowledge of the dissemination of tuberculosis throughout the community and the early age at which infection in a large proportion of the cases takes place. We have to distinguish at once, of course, between the diagnosis of tuberculous infection and the diagnosis of tuberculous disease; but I am inclined to think we have to go further and that what we can aim at practically is perhaps a diagnosis for purposes of

prognosis and treatment rather than absolute diagnosis in itself. In order to arrive at that, we must take into consideration other features of the case than those which bear only on diagnosis—in particular such matters as family history and the well-known age and sex factors which enter into the prognosis of the disease; because after all we are aiming at a diagnosis which will determine our advice to the patient."

Dr. Hammon in closing this important discussion—of which we can make but a brief abstract—says: "I am thoroughly convinced that the early diagnosis of pulmonary tuberculosis will not play an important part in eradicating tuberculosis as a disease of the masses."

COLLEGE HEALTH ACTIVITIES

A number of our leading universities and colleges have organized health activities for student welfare purposes. It is beginning to be realized by medical economists that the welfare of the public consists more in preventing disease and in discovering incipient deviations from health than seeking means of cure, especially certain forms of disease that are but little amenable to medical treatment. There are numerous industrial institutions that are seriously considering plans for the conservation of the health of valuable employes, and especially the question of examinations for the purpose of discovering certain incipient diseases, which, if allowed to progress until serious health disturbances lead the employe to seek medical advice, the discovery may be made too late to prevent permanent disability or to the material shortening of life. It not infrequently happens that accidentally the discovery is made that the person is suffering from a beginning diabetes, Bright's disease, some form of a cardiorenal disease, tuberculosis or some serious affection of the eye fields not yet revealed by noticeable symptoms. It is not many years since most of these diseases were regarded as incurable. There is now no dispute but that many cases can be saved for many years of usefulness if the condition is known early. The industrial corporations know so well the cost of training efficient men, that for some years a physical examination has been required to secure sound men to begin with. The next step will be the conservation of these trained units by welfare watchfulness. To this end, equipped institutions under the direction of trained diagnosticians will be necessary, and as the interests are mutual the ex-

pense should be divided in some equitable manner between the industry and the employe.

The world has been amazed at the efficiency of Germany, not only in war, but in their industries, their universities; in everything that makes a great nation. This was not accomplished by a "laissez faire" policy, but by a conservation policy which made strong and vigorous men. Nowhere should a welfare policy looking towards a strong and vigorous output be considered more than in our universities and colleges. The conservation of the health of an industrial workman is not more important than the health of the student. College sanitation is now well looked after, students are well taken care of when sick, but the student's physical ability has been but little considered except as measured by college athletics. A few of our most advanced institutions of learning have taken up the subject in a scientific way and made provision for the work by organizing in the first place a college hospital or infirmary well equipped with scientific apparatus for diagnosis, carefully arranged record sheets and card index, all under the immediate supervision of a trained physician. (We desire to emphasize here that we are not referring primarily to a treatment hospital.) All registered as full course students should undergo a complete physical examination, and the results of the examination recorded. As this examination is primarily for the benefit of the student, the expense should be borne by assessment. The annual assessment at Princeton is \$7.00; Harvard, \$4.00; Cornell, \$6.00; Stanford, \$4.00; Wellesly, \$5.00; California, \$6.00; Michigan, \$4.00; Texas, \$5.00; Iowa, \$4.00; Kansas, \$2.00; etc.

It is impossible to say at this time how large a per cent of students, apparently well, are suffering from some condition which must logically influence their college activities, or even life, or be a menace to others—(as tuberculosis). The University of Wisconsin has only recently taken up this work under the direction of one of the professors in the Pre Medical Department; the University of Michigan has taken it up in a well organized Health Department. Harvard has given some data as the result of their examinations:—sixteen freshmen had ocular difficulties that needed correction; nine needed to see an aurist; thirty-three never vaccinated against small-pox; thirty-three had albumen in the urine; five had sugar in the urine; nineteen had some valvular trouble with the heart; twenty had some lung trouble (eight bronchitis, twelve tuberculosis). There were also a number of minor ail-

ments. At one examination at the University of California "seven students were not admitted because of poor health. Later three of these died of tuberculosis." There are, of course, a certain number who have a variety of imaginary troubles, particularly heart diseases, that do much better in their work if authoritatively assured that they have no disease. If freshman students are found to have some abnormal condition they need to be under supervision; they need watching and direction which may prove of inestimable value to them. All examinations and records should be confidential and students should be impressed with the idea that this is a purely welfare movement and will be helpful to them in the struggle they are entering upon. It goes without saying that if these examinations are merely perfunctory or are made by an indifferently trained man, they are worse than useless.

We desire to say again that the foregoing is only indirectly related to the treatment of sick or injured students who may be treated in the hospital by the physician in charge or by physicians selected by the student himself. One thing at least should be insisted on and that is that the institution should fix the standard of hospital and medical service. Otherwise abuses will creep in, difficult to eliminate or remedy. It is quite probable that to most college officials a college hospital is a place to care for sick students. So it is to a certain extent, but there is still a more important function, and that is to determine first of all the physical capabilities of the student; how he should live; the character of his college activities and many other things we need not mention. Nothing would be lost if the college drug-shop activities were reduced to the minimum. It may be objected that all the things here mentioned should be looked after at home or before entering college, quite true; but the probabilities are so small of any such enquiry being made that it can be entirely left out of consideration.

REPRINTS

A rather common way of disseminating medical knowledge is by means of the reprint, and many valuable libraries are supplemented by carefully indexed and classified reprints. It has been said that if authors do not regard their publications of sufficient value to have reprints made and distributed to those having an interest in the subject, the paper should not have been written. The writing of a paper merely for the purpose of having it appear in print is not a sufficient reason for its production. If, however, a physician has something in mind that he would like to say,

it is quite the proper thing to write it out in a clear and concise manner, carefully examining what he has written to see if the premise is correct and if it may possibly contain something that will inform others. Many writers of otherwise interesting papers devote pages to text-book anatomy and physiology which discourage the reader or listener before the real subject is reached. Hastily written papers are at least undesirable for publication and do the writer no credit. Case reports are probably the most valuable of all and are more likely to be read and preserved in reprint form provided they are carefully written out, not for the purpose of exploiting the writer's skill in treatment, but because the case has some points of interest; it may be for the obscure symptomatology or error of diagnosis or from a failure to secure a satisfactory result, with an analysis of the causes of failure.

The advantages of reprints to those having limited library facilities are apparent. Doctors living in easy reach of large libraries and who look up their own references can save greatly in time by preserving, classifying and indexing the reprints that reach them. In this way a considerable collection of the best papers that appear in a wide range of periodical literature, may be made. Most large public and private libraries solicit these contributions and class them among the most valuable of their literary collections.

OBSERVATIONS ON THE EFFECT OF LOOSE OR FREE BODIES IN THE KNEE JOINT

Dr. M. S. Henderson, of the Mayo Clinic, in a paper before the Boston Orthopedic Club, makes some interesting observations on the effect of loose or free bodies in the knee joint. It has been asserted by Lane that a large majority of tuberculous infections of the knee joint originate in the local depreciation of vitality resulting from damage to the internal fibrocartilage, not that the site of the tuberculous infection is in the fibrocartilage itself but that the mechanically produced inflammation of the joint causing effusion and inflammation of the synovia may afford the nidus for the infection. Jones holds to substantially the same view. Henderson states that the irritation produced by these loose or free bodies is chronic and characterized by acute exacerbations. "In some, but certainly not all, of our cases of tuberculosis of the knee there has been a suggestion of such a history."

Henderson in an entire series of sixty-three patients operated for free bodies in the knee joint,

gives the results in fifty-two cases traced. Of these, thirty cases were cured and twenty-two did not have wholly satisfactory results. In other words, 62.5 per cent. cured, 26 per cent. distinctly relieved and 11.5 per cent. unimproved. He then in a somewhat lengthy argument points out the reason for failure in the partially improved and the wholly unimproved cases.—(Interstate Medical Journal, September 15, 1915.)

MALPRACTICE INSURANCE IN OHIO

It will be seen from an item of news taken from the Medical Record that the Ohio Insurance Department has taken the same view that the Iowa Department has in relation to liability companies indemnifying surgeons in cases of loss in malpractice suits. It will be remembered, however, that the Attorney-general in Iowa goes a step further and denies the right of a physician to secure a policy in liability companies that do not indemnify or pay the judgment if such be found against the physician. The insurance commissioner of Missouri made practically the same ruling that the Ohio insurance commissioner has made in relation to physicians' liability, but when the next election occurred in Missouri, a new man came into the insurance department who overruled the decision of the former commissioner. We do not know how far insurance commissioners may go in relation to physicians' liability, but we know that in Iowa we are absolutely obliged to take care of ourselves.

NO INSURANCE AGAINST MALPRACTICE SUITS

The Ohio State Superintendent of Insurance has ordered the cancellation of policies issued by liability companies to indemnify surgeons in case of loss of malpractice suits. The reason given is that the issuance of such policies is in probable contravention of public policy as permitting insurance against lack of skill or carelessness.

A DISCUSSION IN THE PARIS ACADEMY OF MEDICINE ON THE SALE OF SPIRITS IN FRANCE

The discussions of the last six months, however, have gone a long way to define the attitude of the Academie towards alcoholic beverages, or at least towards spirituous liquors. On February 12th, during the debate on the bill to regulate the sale of alcoholic beverages, the French Chamber of Deputies passed a clause prohibiting the manufacture and sale, wholesale or retail, of absinthe and "similar beverages;" in the measure, as it

eventually became law, this term was retained. Meanwhile, a report of a committee on the measures to be taken against alcoholism had been presented to the Academie on February 23rd by M. Gilbert Ballet, professor of Neuro-pathology in the Faculty of Medicine, Paris. This report was discussed at a meeting of the Academie in the following week, when a series of resolutions were adopted recommending (1) that a surtax should be imposed and regulations made in respect of the manufacture and sale of all *aperitifs* containing essences and of those made from wines of alcoholic strength greater than twenty-three degrees, (2) the diminution of the number of wine and spirit shops and the prohibition of the sale in such shops to women and to children less than eighteen years of age, (3) that the right of private distillers should be abolished, and (4) that debts incurred for the purchase on credit of alcohol by retail should be rendered insusceptible of recovery by judicial process. Later on the regulations proposed to be made by the fiscal authorities under the Act were reported to the Academie, and it appeared that the authorities had difficulty in defining the term "similar beverages." The Academie accordingly turned its attention to this subject, and on June 29th Professor Ballet presented a further report by the committee. At its meeting on July 13th the Academie unanimously adopted a series of resolutions for the guidance of the fiscal department and parliament. These resolutions recommend: (1) The prohibition of the sale of spirits exceeding fifty degrees in strength. (2) The prohibition of the manufacture, distribution, and sale of all liqueurs and all aromatic wines of strength above twenty-three degrees, neither category of these beverages being permitted to contain more than one-half gram of essence to the litre. Sweet liqueurs, containing 300 grams of sugar to the litre, may be permitted of the strength of thirty degrees. (3) The prohibition of the use for flavouring alcoholic beverages of chemical products, plants, or essences containing among their normal constituents thujone, benzoic aldehyde, aldehyde, or salicylic ethers; and (4) the imposition of a high supertax on all beverages, of whatever nature, in which the amount of alcohol exceeds fifteen degrees. The Academie also adopted two supplementary resolutions. In the first it expressed the hope that the public authorities will without delay, and pending the adoption of legislation to diminish the number of spirit shops, institute the necessary measures of supervision and police to close the very numerous clandestine spirit shops which exist; in the other it recorded the pleasure with which it had noted that the high command

of the army had forbidden the sale and distribution of alcohol in the zone of the armies, and expressed the desire that this protective measure should be maintained and extended.—(Abstracted from *The British Medical Journal*.)

LESIONS OF THE OCCIPITAL LOBE

Byron Bramwell, M. D., reports in the *Edinburgh Medical Journal* for September, 1915, a very rare case of bilateral lesions in the occipital lobe. A man thirty-four years of age was admitted to the Edinburgh Royal Infirmary May 4, 1909. Two and a half years previously, while in Sierra Leone, the patient had a very severe and persistent headache, worse at night. Headache continued three months notwithstanding treatment. Two small lumps removed from the junction of the right parietal with frontal bone. A few days after the operation legs became so weak he was unable to walk. A week after the operation the headache entirely disappeared. In three weeks the legs began to improve and ultimately got quite well. The patient was a soldier and was invalided home. While at Woolwich the headache returned and loss of power developed in left arm and leg. In the course of two months the hemiplegia was recovered from; he was then sent home to Edinburgh, remained quite well for a year; then he got an influenza and for six months suffered from a cough and expectorated blood; following this the headache returned and vision became considerably impaired. He now entered the Edinburgh Hospital. The pain was felt in the frontal and parietal regions, no rise of temperature. The chief symptoms were headache, impairment of vision and mental lethargy. Lumbar puncture showed no increased pressure; cerebro-spinal fluid turbid; microscopic examination showed a large leukocytosis. No definite diagnosis made.

Dr. Bramwell in his remarks, says:

The case is one of great clinical interest. The diagnosis was very difficult.

The history prior to the present illness was highly suggestive of syphilitic brain disease—the patient, a soldier, had suffered for some months from severe headache, worse at night; two superficial nodes had been removed from the exterior of the skull; subsequently the headache returned and left hemiplegia developed; this passed off under treatment, and the patient remained well for eighteen months; then the present attack commenced with severe headache and dimness of vision. The first examination of the cerebrospinal fluid showed a very large lymphocytosis.

The patient denied syphilis and gonorrhea, but the post-mortem examination showed the remains of an

old syphilitic gumma, verified by microscopical examination, on the surface of the right frontal lobe.

It was reasonable to conclude that the acute head symptoms which developed on April 30th were probably due to the same cause as the previous symptoms, i. e. syphilis. This opinion was confirmed by the first lumbar puncture, which showed a very marked lymphocytosis.

The facts (1) that the symptoms were not relieved by large doses of iodide of potassium, and (2) that the second lumbar puncture, made just before death, showed a large leucocytosis, suggested an acute non-syphilitic inflammatory lesion involving the membranes.

The post-mortem examination showed a purulent basilar meningitis and four acute abscesses in the brain—two in the left and one in the right occipital lobe; the fourth abscess was situated in the upper part of the right motor area (ascending frontal convolution).

The diagnosis of abscess of the brain, when there is no apparent cause for the abscess—no apparent local source of septic infection (in the ear, nose, skull bones) and no apparent source of distant infection, such as a septic focus in the lung, which, next to a local source of infection, is by far the most common cause of brain abscess—can never be made with any certainty. Under such circumstances one may suspect an abscess, but one is not justified in definitely diagnosing it.

In this particular case we were unfortunately not allowed to examine the lung post-mortem; but for six months prior to his death the patient had suffered from cough and spit, and on one occasion had brought up a large quantity of blood; presumably, therefore, there was a local lesion in the lung capable of acting as a source of septic infection.

The subnormal temperature was an important point in the case; for one of the most characteristic clinical features of brain abscess, after the initial onset, is a subnormal or normal temperature.

In this case the absence of pyrexia until just before death is especially noteworthy, seeing that there was well-marked purulent basilar meningitis.

Another point of interest is the fact that an abscess the size of a walnut was situated in the upper part of the right motor area (top of the ascending frontal convolution), and that the paralysis involved the left arm, not the leg. Possibly during the last two or three days of the patient's life the leg may have been in some degree paralyzed without the paralysis being detected; but at the time of the patient's admission to hospital there was certainly no paralysis of the leg.

The dimness of vision developed suddenly and did not depend upon optic neuritis. I myself examined the optic discs on 6th and 7th of May, and confirmed the statement that there was no optic neuritis.

The marked constriction of the fields of vision is of interest in connection with the remarkable case which I recorded in the June number of this *Journal*. The case shows the great diagnostic value of lumbar puncture. The first lumbar puncture showed a very

marked lymphocytosis—a condition highly suggestive of syphilitic nerve disease; the second lumbar puncture a marked leucocytosis—a condition suggestive of an acute non-syphilitic inflammation of the meninges, which was in fact present.

COURT HOLDS CHARITABLE HOSPITAL LIABLE FOR NEGLIGENCE

[Tucker vs. Mobile Infirmary Association (Ala.), 68 So. R. 4]

The Supreme Court of Alabama reverses a judgment rendered for the defendant on the pleadings in this action for damages alleged to have been sustained by the plaintiff by being scalded with boiling water both internally and externally as a result of the negligence of one of the nurses employed by the defendant in the care of the plaintiff, and while she was engaged in the duties of said employment. The defense was, in effect, that, having exercised due care in the selection and retention of the nurse, the defendant was exempt from all liability to the plaintiff, because of the fact that it was an institution organized, not for profit, but for charitable purposes. The question presented is one of much interest, the court says, and a subject on which much appears to have been written in recent years. But the question, being an open one in Alabama, left the court free to act without any constraint of the rule of stare decisis or standing by decided cases, and in accordance with what it deems the law. It must be conceded at the outset that the great weight of authority in this country, certainly from a numerical standpoint, lies with the defendant, or is in favor of exemption to an institution engaged in charitable work from liability for the torts of wrongful acts of its servants or agents. Still there is some contrariety of opinion as to the principles on which this result is rested, and varied reasons are given, not at all consistent one with the other. Indeed, the different views are so divergent and so inconsistent that in the mind of this court the weight of authority has lost its force, and this court is rather impressed by a reading of the decisions that the courts holding to the majority view have been rather straining at legal principles in order to reach what they seem to think a desirable and just result. With the result the court cannot feel concerned. It is not for this court to create exemptions or declare immunity from liability in a case of this character as shown by this record, and, if considered to be so violently opposed to the public good, it is a matter that may be addressed to the legislative department. The court passes the question as to liability for injury to one who in fact accepts charity in an institution of this character as it had not that case before it, as the complaint alleged that the plaintiff agreed to pay a reasonable compensation; that is, such sum as was reasonable to be paid for the services rendered. There can be no valid reason why such a patient, dealing as she does at arm's length with the hospital, should not stand in as favorable position as the stranger, and yet

many of the cases grant relief to the latter and deny it to the former. It is a principle of law, as well as morals, that men must be just before they are generous.—(Journal of the American Medical Association.)

PER CENT. OF KILLED TO WOUNDED IN THE BRITISH ARMY

According to some figures appearing in the *Lancet* for July 3, 1915, the ratio of killed to wounded in the ranks is a little over 41½ per cent. The ratio of killed to wounded among officers is somewhat higher, being a little over 55 per cent.

SMALLER HOSPITALS

L. W. Littig, Davenport, Iowa (*Journal A. M. A.*, November 6, 1915), reviews the shortcomings of the smaller hospitals. Their present efficiency, he thinks, is as a rule far below what it should be. The great majority in "Mid West" are open hospitals. In not over 5 per cent., he says, is there anything more than a nominal staff and usually not that. Any physician can use the hospital without discrimination and progress and proper conditions are impossible. With the right kind of attending staff this could be bettered and increased hospital efficiency be obtained. He also criticizes the training schools for nurses and charges that inexperienced nurses are intrusted with patients who need better care. The hospital also sometimes sends out pupil nurses or gives them special cases, which should not be done. Young nurses ought to be under the direct supervision of older ones and ought not be assigned to special duties, and not to the care of serious cases. Management and discipline are essential but not always up to the mark. There is no place where an efficiency expert can be more valuable than in the average open hospital and one should be employed for short periods. A high grade hospital should have a high grade conscientious and co-operative attending staff, a nursing staff under the guidance of a single efficient capable and authoritative head. It must have a general management always sensitive and responsible to the best interests of its patients. In such a hospital responsibility can always be fixed, and proper care can be given. He objects to letting every nurse that graduates serve a short period in the operating room.

OSTEOPATHS AND THE HARRISON LAW

"As anticipated, the federal government is having much difficulty in the administration of the Harrison law, owing to the fact that there is no uniform standard as to what constitutes the practice of medicine in the different states. Not only the definitions and provisions of the statutes, but also the decisions of various courts of last resort differ widely on this point. In some states, osteopathy is included in the practice of medicine; in other states, it is legally dis-

inct. The dilemma of the treasury department is apparent from its conflicting rulings. Treasury Decision 2232, recently issued, revokes Treasury Decision 2172 and substitutes the following ruling: 'Osteopaths should be permitted to register and pay special tax under the provisions of the act of December 17, 1914, provided they are registered as physicians or practitioners under the laws of the state and affidavit is made in application for registration on Form 678 as required by Treasury Decision 2215 of June 10, 1915.' This form is the one used by all physicians, and contains a statement sworn to by the applicant that he is practicing medicine at the time of making application. The intent of the treasury department in this ruling is obvious. If the ruling had provided for the registration of osteopaths in those states in which they are legally recognized as physicians, there would be no ground for criticism. The inclusion of the term 'or practitioners,' however, leaves the entire question open to argument. What does the treasury department mean by 'a practitioner?' This might include Christian Scientists, clairvoyants, seventh sons of seventh sons, and every other fad or form of quackery. Suppose osteopaths are allowed to register under the Harrison law. What of it?" asks The Journal of the American Medical Association. "Such registration will not give them the right to practice medicine, unless they are given this right by the law of the state. Registration under the Harrison law will not confer any right to practice medicine not given by the statutes of the state."

SHALL WE TOE IN OR TOE OUT?

Like the child's toy house built with blocks, the foot stands when balance is maintained and becomes weak and wobbly when a single block is moved sufficiently to disturb its balance. In correct position, the foot carries the weight of the body with a wide margin of strength to spare. Change the posture and the demand upon this reserve strength becomes often too great to be permanently borne. The foot is then under a strain, it tires, becomes painful and finally by yielding of the ligaments, the shape of the foot is altered, its efficiency is impaired and our whole physical being feels the loss of a stable foundation. Body posture directly influences the maintenance of foot comfort, and foot posture has a direct bearing upon correct attitude of the body. The old method of toeing out, as taught to the recruits of the army in civil war times, was really a position of weakness. To utilize its power to best advantage, the walking position of the foot should be with little or no outward pointing of the toes. In standing slight turning out of the toes is permissible. To add to foot comfort, shoes should not cramp the ball of the foot and the heels should be low and broad, to give stability without calling upon the muscles to maintain balance. Mechanically the foot is a wonderful creation, but like all delicate mechanisms it must be kept in good condition and used intelligently or its efficiency disappears.

GOOD HEALTH COMMERCIALLY CONSIDERED

The final report of the Commission on Industrial Relations, created by act of Congress in 1912, has just been issued. While the findings and recommendations of this commission on labor conditions, industrial unrest, workmen's compensation, hours of labor, trade unions and other subjects connected with industrial conditions are of interest, the most important section of the report, from the standpoint of the physician and the sanitarian, is Section 16 on Industrial Conditions and the Public Health. Condensed into six pages are a number of startling statements for the first time given the authority and endorsement of a government commission. Under the direction of an officer of the public health service, investigations were conducted by the commission which revealed the fact that while much attention has been given of late to accident prevention, yet accidents caused only one-seventh as much destitution as does sickness. Each of the thirty-odd million wage earners in the United States loses an average of nine days a year through sickness, at an average cost of two dollars a day. The wage loss from this source is over five hundred million, while the added cost of medical care of at least \$180,000,000 increases the total sick bill of the wage earners of the United States to \$680,000,000 a year. From 30 to 40 per cent. of cases requiring charitable relief are due to sickness, while sickness among wage earners is primarily the result of poverty, causing insufficient diet, bad housing, inadequate clothing and unfavorable surroundings in the home. According to the commission, the surroundings and place of work and the personal habits of the worker are important but secondary factors. This means that while there should be no diminution in our efforts to secure better conditions in the factory, the office and the workshop, the real solution of the public health problem lies in the improvement of the home.

The greatest responsibility rests on the individual and, under present conditions, in the opinion of the commission, he is unable to meet this responsibility. The majority of wage earners do not receive sufficient wages to provide for proper living conditions. The present methods of disease prevention and cure are expensive, and sickness is most prevalent among those who are least able to purchase health. The commission does not anticipate any such rapid increase in the wages of all classes of workers as would permit proper living conditions and adequate medical attention, and therefore concludes that new methods of dealing with existing conditions must be adopted, based on the co-operative action of those responsible for these conditions. A system of sickness insurance is proposed as the most feasible single remedy. The right of the federal government to tax industries in a sickness insurance system has been recognized since 1798, when the law taxing registered vessels for the support of the Marine Hospital Service was passed. An extensive scheme for a federal system of sickness insurance is outlined by

the commission providing for a national sickness insurance commission composed of representatives of employers and employes in equal ratio, with the federal commissioner of labor statistics and the surgeon-general of the public health service as ex-officio members. The recommendations of the commission on sickness insurance and on the improvement of health conditions among wage earners, in the opinion of The Journal of the American Medical Association, are worthy of the most careful consideration both by employers and by labor unions.

BOOK REVIEWS

A TEXT-BOOK OF PATHOLOGY

By Alfred Stengel, M. D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M. D., Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Sixth Edition, Reset. Octavo of 1045 Pages, With 468 Text-Illustrations. Many in Colors and 15 Colored Plates. W. B. Saunders Company 1915, Philadelphia and London. Cloth, \$6.00 Net, Morocco, \$7.50 Net.

It was our privilege to review for another periodical the first edition of Dr. Stengel's Pathology in 1898, and now after an interval of 17 years the sixth edition comes to us. In the meantime the book has grown nearly 200 pages and the author, through his many medical activities, has grown much in fame. This, the sixth edition, is divided into two parts. Part first on general pathology consists of eleven chapters.

Chapter first is given to the etiology of disease and considers first the predisposing causes of disease including factors which reside within the body, and second, the determining causes which exist outside the body. Following this chapter come disorders of nutrition and metabolisms including the effects of fever on these processes; chapter three, disturbances of circulation and chapter four, retrogressive processes. These chapters include some of the most important and interesting facts in pathology, and must be kept in mind in considering all that is to follow; chapter five, inflammation and regeneration. The first "is the local reaction caused by agents that have produced tissue injury." The second refers to "the formation of new cells or tissues to take the place of those destroyed." The reaction and regeneration processes are responsible for many pathological changes in tissues when excessive, or guided by morbid influences, as seen in hypertrophies and tumors. The pathological histology of these overgrowths or progressive tissue changes is fully described and illustrated.

Chapters eight and nine are devoted to bacteria, their nature and action, and the diseases due to bacteria. Animal parasites and diseases caused by them concludes the first part or General Pathology.

Second Part—Special Pathology: First, diseases of the blood; second, diseases of the lymphatic sys-

tem; third, diseases of the circulatory system; then diseases of the respiratory system. Chapters five and six consider the gastro-intestinal tract. We are always interested in the causes which are said to produce gastric and duodenal ulcers, in relation to which there has been so much dispute. Stengel asserts that gastric, peptic or round ulcers are "probably due to the digestive action of the gastric juice upon a section of the stomach wall previously deprived of its natural resistance." Mayo is quoted as insisting "that duodenal ulcers are much more frequent than has been heretofore believed and that they are more common in men than in women," an opinion with which Stengel apparently agrees; furthermore, "carcinomatous transformation is not an infrequent result of long-standing ulceration."

A short chapter is devoted to diseases of the ductless glands. A chapter of fifty-four pages is devoted to the urinary organs. Chapter eight is given to the discussion of diseases of the reproductive organs, and chapters nine and ten to diseases of the bones and joints. Three chapters are devoted to the muscular system of volition, the brain and nervous system, and the last two chapters to the eye, ear and skin.

Dr. Stengel's work may be regarded as a complete text-book on pathology. The author states in the preface that the chapter on laboratory technic has been omitted in this edition and that the chapters on the nervous system have been abbreviated. Full acknowledgement is made of the important aid of Dr. Fox in preparing this edition.

THE MEDICAL CLINICS OF CHICAGO.—VOLUME I, NUMBER 2. (SEPTEMBER, 1915)

Octavo of 194 Pages, 44 Illustrations. Philadelphia and London, W. B. Saunders Company. Published Bi-Monthly. Price Per Year, Paper, \$8.00; Cloth, \$12.00.

The first and second clinics are on tuberculous meningitis by Dr. Isaac A. Abt, the well known authority on children's diseases. Those interested in X-ray treatment of epithelioma will find a helpful clinic on this subject by Dr. William A. Pusey. In this clinic Dr. Pusey well points out the limitations of this treatment which the operator may well consider. The clinics on Heart Disease by Drs. F. Tice, W. W. Hamberger and Robert B. Preble are of great practical interest and will well repay the most careful study. The clinics above noted represent different phases of the disease of this organ as they so often occur in practice. Dr. Charles S. Williamson describes and offers for study a case of aortic aneurysm in his usual interesting way; also two cases of tuberculous pleurisy. Dr. Charles L. Mix, so well known in relation to the Murphy Clinics, presents a case of uncomplicated duodenal ulcer in considerable detail, and along with it a case of carcinoma of the stomach.

These medical clinics, it seems to us, present as much of interest to the general practitioner as do the Murphy surgical clinics, and has some advantage in presenting a wider range of observers.

DISEASES OF THE NERVOUS SYSTEM: A TEXT-BOOK OF NEUROLOGY AND PSYCHIATRY

By Smith Ely Jelliffe, M. D., Ph. D., Adjunct Professor of Diseases of the Mind and Nervous System, New York Post-Graduate Medical School and Hospital, and William A. White, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C.; Professor of Nervous and Mental Diseases, Georgetown University; Professor of Mental Diseases, George Washington University, and Lecturer on Psychiatry, U. S. Army and U. S. Navy Medical Schools. Octavo, 796 Pages, With 331 Engravings and 11 Plates. Cloth, \$6.00 Net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

We have before us a book of nearly 800 pages which presents the story of diseases of the nervous system in a manner which will enlist our interest from beginning to end. It has generally been impossible to write a book on diseases of the nervous system which will appeal to the general practitioner. The authors seek to expand what has been called the "Sensori-motor Neurology in two directions—in one by the increase of our knowledge of the historically oldest portion of the nervous system, namely the sympathetic and autonomic (vegetative) nervous system, and in the other by the increase in our knowledge of the mechanisms that operate at the psychic or mental levels."

For practical purposes the work has been divided into three parts, the vegetative, the sensori-motor and the psychic levels, "the reactions in all of which come to pass through the medium of the nervous system." From the statements found in the preface, we come to the first chapter which deals with the methods of neurological examinations. As helpful in diagnosis, some very excellent plates of the pyramidal tract are presented.

Part first consists of two chapters dealing with the psycho-chemical system or visceral neurology affecting the circulatory system meaning the autonomic and sympathetic nervous systems, supplied to involuntary muscles. There is here, of course, much that is speculation: the influence of the emotions on organs of internal secretion and in turn the influence of the internal secretions on metabolism; the influence of the vago-paralytic, vago-pastic and vago-tonic agents, etc.; the influence of vaso-motor and psychic conditions in functional nervous disorders.

Sensori-motor neurology includes eleven chapters and discusses the various types of organic diseases of the brain and spinal cord. Under this head is grouped, muscular dystrophies, the pathology of which is not definitely determined, but it is believed that certain changes in the spinal cord may be responsible; still it is impossible to say that these changes may not be secondary to the myopathy.

Part third is made up of ten chapters and includes the neuroses and the psychoneuroses, a difficult subject for study and upon which there must necessarily

be considerable divergence of opinion; where the line may be drawn in relation to certain sociological consideration is difficult to determine.

The authors have succeeded in presenting the questions in the light of the most modern research, and after the most careful thought and reflection.

PROGRESSIVE MEDICINE

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia, Assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College. Volume 8, Number 3, (September, 1915). Lea and Febiger, Philadelphia and New York.

The first section of this book is a digest of the literature of Diseases of the Thorax and its Viscera, Including the Heart, Lungs and Bloodvessels, by William Ewart, M. D., F. R. C. P., London. No Englishman can write on medicine without reverting to the great European war, for very obvious reasons. Dr. Ewart, in comparing the "German Scourge" to the Napoleonic wars, uses the following impressive words, "The greatest contrast between these two histories will be the reversal of the proportion between slaughter by weapons and slaughter by disease. The mind staggers at thinking what might have been had not Pasteur and medicine seen to it that that proportion was reversed."

Pulmonary Tuberculosis (phthisis and soldiering) is the first subject reviewed—fourteen pages.

Under the head of the Control of Infections and Antiseptics, Ewart takes up the discussion, going on between Sir A. E. Wright and Sir Watson Cheyne, through the leading British Medical Journals, Sir A. E. Wright contending for the treatment by physiological methods and Sir Watson advocating the employment of a powder of equal parts of boracic and salicylic acids as the early first dressing. The dispute appears to be a misunderstanding as to time and condition.

The section on Dermatology, written by William S. Gottheil, relates largely to the serum treatment of certain skin affections. How the cure or improvement is effected, no one is quite able to say.

The abstract of the literature on Obstetrics is prepared by Dr. Edward P. Davis. In the treatment of pernicious nausea, Davis mentions normal sterile horse serum as a measure worth trying, although he has had little personal experience with it. In relation to eclampsia, Peterson brings forward abdominal Cesarean section and quotes a maternal mortality of 25 per cent. Isolated groups of cases show a maternal mortality of 9.5 per cent.

In the treatment of **placenta previa**, Davis holds that for the general practitioner in the house of the patient, version is the safest procedure. In a hospital, abdominal Cesarean section has much to recom-

mend it. Referring to the mortality of Cesarean section before labor, should give a mortality not greater than 2 or 3 per cent.

Dr. William G. Spiller furnishes the section on Diseases of the Nervous System. The literature on Syphilitic and Parasyphilitic Diseases of the Nervous System receives the largest consideration.

A TEXT-BOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS

By George Emerson Brewer, A. M. M. D., Professor of Surgery, College of Physicians and Surgeons, New York; Surgical Director, Presbyterian Hospital; Consulting Surgeon, Roosevelt Hospital, assisted by Adrian V. S. Lambert, M. D., Associate Professor of Surgery, Columbia University; Attending Surgeon, Presbyterian Hospital; and by Members of the Surgical Teaching Staff of Columbia University. Third Edition, Thoroughly Revised and Rewritten. Octavo, 1027 Pages, With 500 Engravings and 23 Plates in Colors and Monochrome. Cloth, Net, \$5.50. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The third edition of Brewer's Surgery will be received by the profession with favor, notwithstanding the number of most excellent books on general surgery and monographs on limited fields that have appeared recently. The popularity of this work shows its ability to hold its place among all competitors. Dr. Brewer has been ably seconded by a well known group of collaborators in revising this edition and bringing it to date. Dr. Brewer's reputation as a brilliant surgeon and writer is so well assured that no introduction is necessary. It is really only necessary for the reviewer to announce to the medical public that a new edition is in the market. It has been stated that there are many excellent recent works on surgery before the profession, and yet it must be granted that the experience and viewpoint of different surgeons will create a difference in range and fullness of discussion, and in this respect Brewer has some distinct advantages, which has been appreciated since the first edition appeared.

THE PRINCIPLES OF BACTERIOLOGY—A PRACTICAL MANUAL FOR STUDENTS AND PHYSICIANS

By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Ninth Edition, Thoroughly Revised, With 113 Illustrations, 28 of Which Are Colored. Lea & Febiger, Publishers, Philadelphia and New York, 1915. (Price, Cloth, \$2.75 Net.)

Dr. Abbott has thoroughly revised his book, bringing each subject up to date and adding information in regard to more recent work, including complement fixation, hemolysis and immunity. The il-

lustrations are excellent—a very important part of the work.

The chapter on laboratory equipment and laboratory technique is especially good.

The book gives, in concise form, the information needed in a ready reference book for the busy physician, or as a text-book for the student. It is readable and interesting in addition to being the work of an authority on the subject.

FRACTURES AND DISLOCATIONS, DIAGNOSIS AND TREATMENT

By Miller E. Preston, A. B., M. D., First Lieutenant M. R. C., U. S. A., Surgical Examiner, Colonial State Board of Medical Examiners; Formerly Police Surgeon, Denver; Instructor in Anatomy, University of Denver, and Visiting Gynecologist to City and County Hospital, Denver; With a Chapter on Rontgenology, by H. G. Stover, M. D., Professor of Rontgenology, School of Medicine, University of Colorado. C. V. Mosby Co., St. Louis. Price, \$6.50.

The book is rich in illustrations, most of which are of recent fractures and dislocations taken within a few minutes following the injury.

The discussion of fractures and dislocations of certain joints follow each other in a logical order: for instance, fractures of the bones of the upper extremities first considered, then dislocation of the joints, and in both instances X-ray illustrations which show quite accurately the position of the bone.

There can be but little difference in the description of fractures and dislocations and their treatment in the different text-books. Certain principles have been well worked out. Dr. Preston has, however, introduced in his book some special features that are unique. In addition to the standard cuts and figures, many illustrations of accident cases are presented directly from the scene of the accident, appearing just as the surgeon will find them, and these figures are, in many instances, supplemented by X-ray illustrations. In fact, we are presented with a clinical exposition of fractures and dislocations of unusual interest and value.

The author has been exceedingly fortunate in his presentation of the diagnosis, the difficulties of diagnosis and the elements of error, especially in certain classes of fractures which not infrequently cause the surgeon serious trouble. In relation to fractures of the femur, many illustrations are given of methods and devices which may be successfully employed to prevent such unfortunate results as undue shortening and angulation.

This book of 792 pages of text is a valuable addition to the literature of fractures and dislocations.

THE STARVATION TREATMENT OF DIABETES

With a Series of Graduated Diets as Used at the Massachusetts General Hospital, by

Lewis Webb Hill, M. D., and Rena S. Eckman, Dietitian, With an Introduction by Richard C. Cabot, M. D., Price \$1.00. W. M. Leonard, Publisher.

This book furnishes to the general practitioner in compact form the details of the latest and most successful treatment of Diabetes Mellitus. It presents the clinical application of the work done in recent years by Dr. Allen at Harvard and the Rockefeller Institute.

This method of treatment, carried out by Dr. Allen at The Rockefeller Hospital, and by the Staff at The Massachusetts General Hospital, has proved very successful. As Dr. Cabot states in the Introduction "It seems already clearly proven that Dr. Allen has notably advanced our ability to combat the disease. * * * To all who wish to give their patients the benefit of this treatment I can heartily recommend this book." In a recent address Dr. Allen said, "However specialists may feel there is no doubt that a majority of average practitioners feel bewildered and helpless concerning diabetes."

To all who have been tried by this baffling disease, this little volume, with its description of treatment, tests and diets will be of greatest service.

PUBLIC HEALTH REPORTS

Issued Weekly by the United States Public Health Service, Containing Information of the Current Prevalence of Disease, the Occurrence of Epidemics, Sanitary Legislation and Related Subjects.

Washington, Government Printing Office.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Papaverine—An alkaloid obtained from opium, but not chemically related to morphine. Its use has been proposed in various atonic conditions of the smooth muscles, particularly in gastric and intestinal spasms, for the diagnosis of pyloric spasm, biliary colic and in bronchial spasm. It is a feeble analgesic and local anesthetic. Neither tolerance nor habitation from its use has been reported. It is used in the form of its salts (see below).

Papaverine Hydrochloride—This contains not less than 88 per cent. of papaverine. Papaverine hydrochloride is odorless, bitter and permanent in the air. It is sparingly soluble in water; soluble in alcohol; very soluble in chloroform; insoluble in ether. It is marketed as:

Papaverine Hydrochloride, Merck and Co., New York.

Papaverine Hydrochloride, Roche—Hoffmann-La Roche Chemical Works, New York.

Papaverine Hydrochloride, Roche, Tablets—Each

tablet contains papaverine hydrochloride 0.04 Gm. Hoffmann-La Roche Chemical Works, New York (Jour. A. M. A., May 29, 1915, p. 1849).

Papaverine Sulphate—This contains not less than 85 per cent. of papaverine. Papaverine sulphate is odorless, bitter and slightly hygroscopic. It is soluble in water and in alcohol; very soluble in chloroform; insoluble in ether. It is marketed as:

Papaverine Sulphate, Roche, Ampules—Each ampule contains 0.04 Gm. papaverine sulphate. Hoffmann-La Roche Chemical Works, New York (Jour. A. M. A., May 29, 1915, p. 1849).

PROPAGANDA FOR REFORM

Secretogen—To call attention to the unfounded and extravagant claims made for internal secretion products, the Council on Pharmacy and Chemistry reports on Secretogen Elixir and Secretogen Tablets, sold by the G. W. Carnrick Co. The report discusses the insufficiency of the evidence for the administration of secretin—claimed to be present in these preparations. The Council holds that a rational basis for the therapeutic value of Secretogen is lacking because there is no evidence that the absence of secretin is a cause of gastro-intestinal diseases, and because there is no evidence that secretin in any form is physiologically active when administered by the mouth (Jour. A. M. A., May 1, 1915, p. 1518).

The Oxypathor—An order forbidding the use of the United States mails has been issued against the Oxypathor Company, Buffalo, N. Y. and its branches at Columbus, Ohio and Wilmington, Del. The Oxypathor consists essentially of a piece of nickel-plated tubing filled with inert material, sealed and having attached to each end a flexible cord with a garter-like attachment at the free ends. This outfit was sold with the absurd claim that it caused the absorption of large quantities of the oxygen through the skin of the user (Jour. A. M. A., May 8, 1915, p. 1600).

Burnham's Soluble Iodine—The Council on Pharmacy and Chemistry reports that Burnham's Soluble Iodine is a semi-secret preparation exploited by extravagant and dangerous therapeutic claims and therefore ineligible for New and Non-Official Remedies. The A. M. A. Chemical Laboratory has shown that the official tincture of iodine, diluted one-half, would be essentially equivalent to the Burnham preparation. While the promoters claim that the administration of free iodine is therapeutically superior to the administration of iodides, this is a fallacy. The small dose of Burnham's Soluble Iodine recommended by the manufacturer accounts for the claimed freedom from symptoms of iodism. The Council considers as particularly reprehensible the recommendation to inject the preparation intravenously and the proposed indiscriminate use in tuberculosis (Jour. A. M. A., May 15, 1915, p. 1673).

Venarsen—The Council on Pharmacy and Chemistry reports that while formerly Venarsen was marketed with indefinite statements as to its identity and

in a way to suggest analogy with salvarsan, it is now admitted to be essentially a sodium cacodylate solution, each ampule containing about 9 grains sodium cacodylate, 1/40 grain mercuric iodid and $\frac{3}{4}$ grain sodium iodid. The Council finds the therapeutic claims made for Venarsen to be exaggerated and unwarranted and holds the administration of sodium cacodylate and mercuric iodid in fixed proportions intravenously to be an irrational procedure (Jour. A. M. A., May 22, 1915, p. 1780).

Nomenclature of Drugs—The first requisite of successful prescribing is to know what one is giving. Non-descriptive or therapeutically suggestive names for drugs lead to uncritical prescribing, as has been shown by the random use of heroin and the untoward results from Atoxyl. Often proprietary names make it possible to charge an exorbitant price for a well-known drug, as when hexamethylenamin is sold as Uritone, Urotropine or Cystogen and theobromin sodium salicylate as Diuretin. Since the action of drugs depends on their chemical nature, the name should at least suggest the chemical composition of the drug or its source and relationship. The lack of scientific nomenclature of drugs is discreditable and hampering to modern medicine. Physicians should eschew the fanciful or therapeutically suggestive names provided by manufacturers and give preference whenever possible to non-proprietary descriptive names for drugs (Jour. A. M. A., May 29, 1915, p. 1853).

COMING MEETINGS

The Western Surgical Association will hold its twenty-fifth annual meeting in Des Moines on December 17th and 18th, with headquarters at Hotel Chamberlain. The following is the provisional program:

Joseph Rilus Eastman, Indianapolis—President's address.

Daniel N. Eisendrath, Chicago—Ascending Renal Infection: An Experimental Study.

Emil Beck, Chicago—How to Locate Foreign Bodies in the Chest and Methods for Their Extraction.

Arthur E. Hertzler, Kansas City—Technic of Operation for Opening the Anterior Mediastinum.

J. Frank Corbett, Minneapolis—Intratracheal Anesthesia.

Edward S. Judd, Rochester—Foreign Bodies in the Urinary Bladder.

Charles H. Mayo, Rochester—Repair of Small Vesico-Vaginal Fistulae.

Major G. Seelig, St. Louis—Experimental Data on Anoci-Association.

Arthur T. Mann, Minneapolis—Nails and Screws in Joint Surfaces.

Thomas C. Witherspoon, Butte—Title to be given.

Charles A. L. Reed, Cincinnati—Chronic Acidosis as a Factor in Determining Surgical Results.

Willard D. Haines, Cincinnati—The Management of Toxic Goitre.

Allen B. Kanaval, Chicago—A New Technic in Arthroplasty of the Shoulder Joint.

Emil H. Beckman, Rochester—Surgical Treatment of Spina Bifida.

James E. Moore, Minneapolis—Osteomyelitis Involving the Hip Joint; a Condition Heretofore Erroneously Designated Acute Epiphysitis.

Henry T. Byford, Chicago—The Cancer Problem.

Joseph C. Bloodgood, Baltimore—The First Aid Conference; and Recent Developments in the Cancer Problem.

Albert E. Halstead, Chicago—Carcinoma of the Rectum.

Lewis L. McArthur, Chicago—Title to be given.

Dean D. Lewis, Chicago—Bleeding Nipple.

Miles F. Porter, Fort Wayne—Further Studies of Malignant Disease of the Ovaries.

Joseph Ransohoff, Cincinnati—Title to be given.

C. E. Tennant, Denver—A Paradox in Cancer; a Case: with Slides and Photos.

Amos W. Abbott, Minneapolis—The Early Diagnosis in Intussusception in Children under Five Years.

William Hesser, Chicago—Epiploitis as a Sequel to Herniotomy.

F. Gregory Connell, Oshkosh—Chronic Appendicitis.

William W. Grant, Denver—Surgical After-Treatment or Drainage of the Peritoneal Cavity.

Byron B. Davis, Omaha—Intestinal Stasis.

Van Buren Knott, Sioux City—Excision vs. Gastroenterostomy in the Treatment of Gastric Ulcer.

Carl E. Black, Springfield, Ill.—The Tactile Sense Through Rubber Gloves: Experiments with the Blind.

SOCIETY PROCEEDINGS

The Appanoose County Medical Society met at the Society Assembly Room of Drake Free Public Library, Centerville, November 24th.

The following personal cases were reported to the society. The history, symptoms, course, treatment and development up to time of reporting were given.

Obscure Cause of Cough—N. W. Labagh, Mystic.

Secondary Syphilis—H. C. Hoch, Cincinnati.

Syphilitic Mediastinal Manifestation—U. L. Hurt, Numa.

Tubercular Peritonitis—C. S. Hickman, Centerville.

Acute Nephritis—C. P. Tillmont, Centerville.

Carcinoma of Fibula: Clinical Course—E. E. Bamford, Centerville. Laboratory Findings—B. F. Sturdivant, Centerville.

The annual meeting of the Cass County Medical Society was held at the Commercial Club, Atlantic, November 24th with eighteen physicians present. In the absence of both the president and vice-president, W. S. Greenleaf, of Massena, presided.

Max Emmert, of Des Moines, formerly of Atlantic, read a paper on Appendicitis; C. B. Burke, of

Atlantic, presented a paper on The Surgical Treatment of Gonorrheal Seminal Vesiculitis; and W. L. Bierring, of Des Moines, read a paper on Myocarditis. A vote of thanks was tendered Dr. Bierring for his most excellent handling of this subject. All of the papers elicited interesting discussion.

The officers elected for the ensuing year were as follows: President, W. S. Greenleaf, Massena; Vice-President, W. F. Graham, Atlantic; Secretary-Treasurer, M. F. Stults, Wiota.

The Annual Meeting of the Clayton County Medical Society was held at the Court House in Elkhader, Tuesday, November 2nd. The program was:

The Treatment of Toxic Goitre—G. F. Kelleher.
Ruptures of Extrauterine Gestations—J. C. Brown
How Can We Better Our Society?—W. H. Thomas.

The officers elected for the coming year are: President H. H. Clark, McGregor; Vice-President, J. C. Brown, Littleport; Secretary-Treasurer, W. H. Thomas, McGregor; Delegate, W. J. McGrath; Alternate Delegate, T. R. Cutler, Guttenberg.

The Decatur County Medical Society held a very successful meeting at Leon, October 28th. About fifty physicians were present. The papers read and discussed were:

Some Phases of Cardio Vascular Disease—Walter L. Bierring, Des Moines.

Care of Pregnant Women—J. B. Horner, Lamoni.
Pain in Back as a Symptom of Appendicitis—F. Rosenblatt, Des Moines.

Sinusitis as a Source of Infection—T. A. Minasian, Des Moines.

Consultation—B. L. Eiker, Leon.

The Iowa County Medical Society held its thirty-second semi-annual meeting at Marengo, November 26th. The program was:

Local Anesthesia—A. R. Moon, Williamsburg.
Some Problems in Mastoid Surgery—Ira Nelson Crow, Marengo.

The annual meeting of the Monona County Medical Society was held at Castana, December 2nd. J. B. Naftzger, of Sioux City, read a paper on eye, ear, nose and throat problems in general practice. The officers elected for 1916 are as follows: President, E. C. Junger, Soldier; Vice-President, M. O. Stauch, Whiting; Secretary and Treasurer, Fred S. Spearman, Whiting; Censor, G. S. Waterhouse; Delegate, E. C. Junger.

At the regular November meeting of the Polk County Medical Society, held at the Savery Hotel, on the 30th, the program was:

Vincent's Angina—C. M. Werts.

The Use of Pituitary Extract in Post Operative Surgery—W. E. Vest.

Dr. Werts' conclusions were:

Vincent's angina is an acute mildly infectious inflammation starting most frequently in the tonsil or

adjacent mucous membranes of the mouth or pharynx, and may in extreme cases extend to almost any of the tissues of the body. It is characterized by rather sudden onset moderate elevation of temperature, malaise, and the formation of pseudo-membrane at the site of the infection, later by a deep ulceration and sloughing of tissues. It is due to the fusiform bacillus and the spirilla of Vincent. These organisms do not grow well on cultures and are best demonstrated by means of a smear. The disease is self limited but may appear as a secondary infection to diphtheritic, syphilitic or scarlatinal ulceration. The differential diagnosis between Vincent's angina, syphilis, tuberculous and other ulcerations of the throat is not always easy. It is best made by the use of the smear, Wassermann, various tests for tuberculosis, culture for diphtheria, history and progress of the disease. In the milder forms it yields kindly to treatment, clearing up in a few days from the use of mild antiseptic washes, local application of silver nitrate, 5 or 10 per cent., or the tincture of iodine. European investigators are recommending salvarsan, particularly in the complicated or extensive forms.

Dr. Vest's paper may be thus summarized:

The pituitary gland has an anterior and a posterior lobe—the former predominatingly glandular, the latter nervous in character; an extract from the posterior lobe is used hypodermically or intramuscularly—not by mouth; it has a direct effect on the circulatory, intestinal, uterine and urinary systems; it raises blood pressure, some times markedly; it increases peristalsis; it promotes contractions of the uterus and bladder and increases the urine.

After abdominal surgery the administration of an extract of the posterior lobe prevents or relieves flatus, gastric, dilatation, post operative ileus, retention of the urine. Its use is often soon followed by the passage of flatus and not infrequently by bowel movement.

Since beginning the use of this agent the author has had no trouble from tympanites, ileus or gastric dilatation.

The annual meeting of the Scott County Medical Society was held at the Commercial Club, Davenport, November 2nd. The officers elected were: President, Kuno Struck; Vice-President, James Dunn; Secretary, Wm. H. Rendleman; Treasurer, S. G. Hands.

At the Wapello County Medical Society meeting of November 2nd, Dr. F. W. Newell presented the Etiology and Symptomology, and Dr. W. B. LaForce the Treatment of Cystitis.

It was noted that retention alone does not cause a cystitis but infection through trauma, foreign bodies, blood or lymph streams must be added. Without retention, the bladder can handle some germs, others it cannot; calculus is a contributing cause. The pathological changes are most marked in the region of the trigone and near the orifices of the urethra and ureters, where they may be studied

through the cystoscope. The symptoms usually met are frequent and painful micturition, amounting often to a tenesmus, with systemic symptoms varying according to the virulence of the toxic agent; urine may be acid or alkaline, containing more or less pus and blood and varying chemical sediments and bacteria, according to the class of the infecting organisms. To avoid catheter infection it is the custom here to instill and leave in a few drachms of argyrol solution of from 5 to 20 per cent. strength. In treatment the cause of the obstruction and irritation are removed if possible; apply heat, give rest, diluent drinks, alkalies (or acids according to the urinary findings) and deplete through the bowel. Various antiseptics have their supporters; salol, chlorate of potassium, benzoates, balsams, urotropin. In chronic cases washings with various antiseptic solutions and in obstinate cases more or less prolonged drainage. Tubercular ulcer of bladder is not benefitted if tubercular lesion of kidney is not first relieved.

Dr. Eppie McCrea, of Eddyville, showed a case of a man of fifty-five, who had had a growth removed from cheek several times by knife and by freezing, which now seemed to involve the parotid. The society agreed in advising X-ray treatment.

At the meeting of November 16th, Dr. Thos. A. Burcham, of Des Moines, by invitation, gave an instructive and scientific paper on "The X-Ray Treatment of Disease." He spoke of the different rays Reiley, Red Oak; Secretary-Treasurer, Enos Mitchell, Weldon. The next meeting will be held at Creston.

E. T. F.

The fortieth annual meeting of the Southeastern Iowa Medical Society was held at Washington, November 18th. The meetings of this society are always well attended and the meeting this year had a representation of over three hundred including the physicians' wives.

An elaborate banquet was served at the church and the after dinner addresses were given by J. R. Guthrie, of Dubuque, and H. M. Eicher, of Washington. At the scientific session the following program was carried out:

President's Address—A. O. Williams, Ottumwa. and their effects, kinds of generators and tubes, the need of filtration and protection and then took up the results in a considerable number of diseases,—the use of measured and massive doses. The nature of the paper does not permit a fair resume of it in the limits of a report of this kind, but it was made clear that the field of roentgen therapy is a large and important one, and the cordial thanks of the members present were given the essayist.—E. T. E.

The Austin Flint-Cedar Valley Medical Society held their fall meeting at Eagle Grove, November 9th. One hundred physicians and their wives were in attendance. The scientific program presented was:

Tetanus, with the Report of One Case—J. L. Peppers, Goldfield.

The Diagnosis of Accessory Sinus Infection—Loran M. Martin, Fort Dodge.

Some Clinical Observations on Maximum Doses—W. H. Seymour, Charles City.

Abdominal Trauma—O. J. Fay, Des Moines, Discussion opened by N. Schilling, New Hampton.

The Medical Treatment of Gastric Ulcer—E. D. Tompkins, Clarion. Discussion opened by W. L. Bierring, Des Moines.

The Surgical Treatment of Gastric Ulcer—Van Buren Knott, Sioux City. Discussion opened by O. J. Fay, Des Moines.

Congenital Deformities, Illustrated by Lantern Slides and Reflectoscope—John Prentiss Lord, Omaha. Discussion opened by A. M. Pond, Dubuque.

Dyspepsia—W. C. McGrath, of Eagle Grove.

Paper—Guthrie McConnell, of Waterloo.

Visceral Syphilis—W. H. Long, Hampton.

Fracture of the Upper Third of the Forearm Treated by Extension—J. W. Thornton, Ackley.

In the evening a banquet was served at the Methodist church. The annual meeting of the society will be held next July at Iowa Falls.

The Iowa Surgeons' Clinical Society met at Waterloo, November 27th. About sixteen surgeons from the larger cities of the state and Sioux Falls, S. D., were present. A clinic was held at the Presbyterian Hospital. The next meeting of the society will be held at Council Bluffs.

The Southwestern Iowa Medical Association met at Glenwood, November 18th. The meeting was held at the Institution for Feeble Minded Children and the visiting physicians were the guests of Supt. Geo. Mogridge. Luncheon and dinner were served at the institution and the school department provided the entertainment consisting of games and music. At the scientific session, Dr. E. A. Merritt, of Council Bluffs, read a paper on X-Ray Examination of the Stomach and Colon and Dr. George Mogridge presented a paper on Cretinism.

The following officers were elected: President George Mogridge, Glenwood; Vice-President, W. S. Moist Dressings in General Practice—L. D. James, Fairfield.

Gastric and Duodenal Ulcers—M. Bannister, Ottumwa.

Nasal Accessory Sinus Disease from the General Practitioner's Point of View—W. H. Johnston, Muscatine.

A Brief Review of Some Ideas Regarding the Treatment of Tuberculosis—George B. Crow, Burlington.

Sanatorium Treatment of Tuberculosis—H. V. Scarborough, Oakdale.

Chronic Pancreatitis—John W. Shuman, Sioux City.

Shock from a Clinical Standpoint—L. W. Littig, Davenport.

The State Hospital and Colony for Epileptics,

now Under Construction—M. Nelson Voldeng, Woodward.

Volvulus with a Report of Cases—E. B. Howell, Ottumwa.

When It Isn't Appendicitis—C. A. Boice, Washington.

The officers elected for the ensuing year were: President, E. T. Wickham, Washington; Vice-President, C. W. Wahrer, Fort Madison; Secretary-Treasurer, E. F. LaForce, Burlington. The retiring president and vice-president were, A. O. Williams, Ottumwa and C. A. Boice, Washington. The next meeting of the society will be held at Muscatine.

MARRIAGES

Dr. Wm. A. Garner to Miss Anna D. Anderson, both of Kiron, at Grinnell, November 10th.

BIRTHS

Dr. and Mrs. M. J. Joynt, of Le Mars, November 24th, a son.

DEATHS

Silas C. Myers, M. D., formerly a practicing physician at Rossville, and Oskaloosa, died suddenly at his home in Waterloo, November 22nd, aged sixty-four.

Frank J. Huizenga, M. D., Rush Medical College, 1895, died at his home in Rock Valley, from injuries sustained in an automobile accident, November 8th, aged forty-two.

Lucius J. Landes, M. D., Marion Sims College of Medicine, St. Louis, 1892, a practitioner for several years at Grand River, died at his home in Grand River, November 5th, aged forty-eight.

John E. King, M. D., State University of Iowa College of Medicine, 1897, died at his office in Anamosa from poison self administered while temporarily insane, November 17th, aged fifty.

Unah C. Jones, M. D., Drake University College of Medicine, 1888, who served in Company E, Fourth Iowa Cavalry, during Civil War; a member of Carroll County and Iowa State Medical Societies; also a member of Northwestern and Central Medical Societies; a practitioner for many years at Breda, died at his home in Breda, November 5th, from carcinoma, aged seventy-two.

CHANGES OF LOCATION

Dr. J. K. Guthrie, of Algona, has removed to Ringsted, purchasing the practice of Dr. O. N. Bossingham. Dr. Bossingham goes to Chicago for post-graduate work.

Dr. E. J. Smith, of Harlan, has sold his practice to Dr. J. D. Dunshee, of Keystone. Dr. Smith will remove to Ogden, Utah.

Dr. S. R. Fraker, formerly of Chelsea, has located at Cass Lake, Minn, for the practice of his profession.

Dr. R. P. Berry, of Clermont, has removed to West Union.

MEDICAL NEWS

Dr. T. L. Thomson, and wife, of Van Horn, are both ill with typhoid fever.

Dr. R. R. Williams, of Manning, is recovering from an operation for appendicitis.

Dr. S. M. Littlefield, of Anderson, is dangerously ill at the Iowa Sanatorium, Maquoketa.

Dr. N. C. Morse, of Eldora, has recently undergone an operation for cataract at Cincinnati.

Dr. Paul Stooky, a graduate of the Chicago College of Medicine and Surgery, has located at Lamoni.

Dr. Eli Browning, of Iowa City, is at present taking care of the practice of Dr. G. L. Day, of Lone Tree, who has been very ill.

Dr. B. C. Stewart, of Ute, has gone to Chicago for six months post-graduate work at the Chicago Post-graduate and Polyclinic School.

Drs. G. Hardy and Margaret Clark, of Waterloo, who have been in active practice for several years at that place, have removed to Long Beach, Cal.

The Davenport Pathological Laboratory Association have filed articles of incorporation. The association is to be a non-profit and non-dividend organization. The shares are valued at \$50 each. The officers are: President, H. U. Braunlich; Secretary, W. A. Stoecks; Treasurer, A. P. Donohoe.

HOSPITAL NOTES

Dr. J. B. Miner, of Charles City, has purchased the interest of the late Dr. J. L. Parker in the Cedar Valley Hospital, at Charles City.

The central building of the Iowa Congregational Hospital, Fourteenth and Clark streets, Des Moines is rapidly nearing completion. The structure, costing \$80,000, is being built by popular subscription—\$50,000 of which already has been pledged. Unlike many hospitals, the Congregational Hospital will have parked grounds for the use of convalescent patients.

Dr. F. J. Van Meter, who has been acting as first assistant physician at the Iowa State Hospital for inebriates at Knoxville, has gone to the Clarinda State Hospital, succeeding Dr. R. B. Smith, as third assistant physician—Dr. Smith now occupies the second assistant physician's position at Clarinda.

Dr. W. T. Graham for the past four years superintendent of the Iowa Methodist Hospital, Des Moines, has been elected by the Iowa State Board of Education, superintendent of the University Hospital, Iowa City. This hospital has not previously had a superintendent,—a member of the nurses training school serving as acting superintendent. Dr. Graham came to Des Moines from Indianapolis, where he had for four years been superintendent of the Indianapolis Methodist Hospital; before this he was assistant superintendent of the Methodist Hospital,

Brooklyn, N. Y., for eleven years. The University Hospital has grown until it now has accommodations for 400 patients and it is felt that it will be of great benefit to have a man trained, as Dr. Graham is, at its head.

1916 DUES

Opportunity is again taken to call attention to the 1916 dues. Members should remember that the dues are really payable in advance and that failure to pay promptly may make a difference in your medico-legal protection.

The Iowa State Medical Society dues for 1916 are \$5.00 per member, apportioned as follows: General Society expenses including the Journal, \$2.00; Medico-Legal fund, \$2.00; special assessment for 1916, \$1.00.

Remember that members whose dues do not reach the State Secretary by February 1st are in suspension.

The various county secretaries are earnestly requested to make diligent efforts to have the dues in the hands of the State Secretary before January 1st.

PUBLIC HEALTH SERVICE DISCOVERS CAUSE AND CURE OF PELLAGRA. PEL- LAGRA CAUSED BY INSUFFICIENT PROTEID DIET

Announcement has been made by the treasury department that a result of continued research and experiments of the public health service, both the cause and the cure of pellagra have been discovered, and that the spread of this dread malady, which has been increasing in the United States at a terrific rate during the past few years, may now be checked and eventually eradicated.

Pellagra has been increasing alarmingly throughout the United States during the last eight years, and it is estimated that 75,000 cases of the disease will have occurred in the United States in 1915, and of this number at least 7,500 will have died before the end of the year. In many sections only tuberculosis and pneumonia exceed it as a cause of death.

The final epoch-making experiment of the public health service was carried out at the farm of the Mississippi State Penitentiary about eight miles east of Jackson, Miss., and together with the previous work of the service completes the chain in the prevention and cure of the disease. The work at the Mississippi Farm has been in charge of Surgeon Joseph Goldberger and Assistant Surgeon G. A. Wheeler of the United States Public Health Service. The farm consists of 3,200 acres in the center of which is the convict camp. The final experiment was undertaken for the purpose of testing the possibility of producing pellagra in healthy human white adult males by a restricted, one-sided, mainly carbohydrate (cereal) diet. Of eleven convicts who volunteered for this experiment, six developed a typi-

cal dermatitis and mild nervous gastrointestinal symptoms.

Experts, including Dr. E. H. Galloway, the Secretary of the Mississippi State Board of Health, Dr. Nolan Stewart, formerly superintendent of the Mississippi State Hospital for the Insane at Jackson, Dr. Marcus Hause, Professor of Dermatology, Medical College of the University of Tennessee, Memphis, Tenn., and Dr. Martin R. Engman, Professor of Dermatology in the Washington Medical School, St. Louis, Mo., declare that the disease which was produced was true pellagra.

Prior to the commencement of these experiments no history could be found of the occurrence of pellagra on the penitentiary farm. On this farm are seventy-five or eighty convicts. Governor Earl Brewer offered to pardon twelve of the convicts who would volunteer for the experiment. They were assured that they would receive proper care throughout the experiment, and treatment should it be necessary. The diet given was bountiful and more than sufficient to sustain life. It differed from that given the other convicts merely in the absence of meats, milk, eggs, beans, peas, and similar proteid foods. In every other particular the convicts selected for the experiment were treated exactly as were the remaining convicts. They had the same routine work and discipline, the same periods of recreation and the same water to drink. Their quarters were better than those of the other convicts. The diet given them consisted of biscuits, fried mush, grits and brown gravy, syrup, cornbread, cabbage, sweet potatoes, rice, collards and coffee with sugar. All components of the dietary were of the best quality and were properly cooked. As a preliminary, and to determine if the convicts were afflicted with any other disease, they were kept under observation from February 4th to April 9th, two and a half months, on which date the one sided diet was begun.

Although the occurrence of nervous symptoms and gastrointestinal disturbances was noted early, it was not until September 12th, or about five months after the beginning of the restricted diet, that the skin symptoms so characteristic of pellagra began to develop. These symptoms are considered as typical, every precaution being taken to make sure that they were not caused by any other disease. The convicts upon whom the experiment was being made, as well as twenty other convicts who were selected as controls, were kept under continuous medical surveillance. No cases of pellagra developed in camp excepting among those men who were on the restricted diet. The experimenters have therefore drawn the conclusion that pellagra has been caused in at least six of the eleven volunteers as a result of the one sided diet on which they subsisted.

On the basis of this discovery, the State of Mississippi, Louisiana and Florida have laid their propaganda through their respective boards of health for the eradication of the disease.—(U. S. Public Health Service.)

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